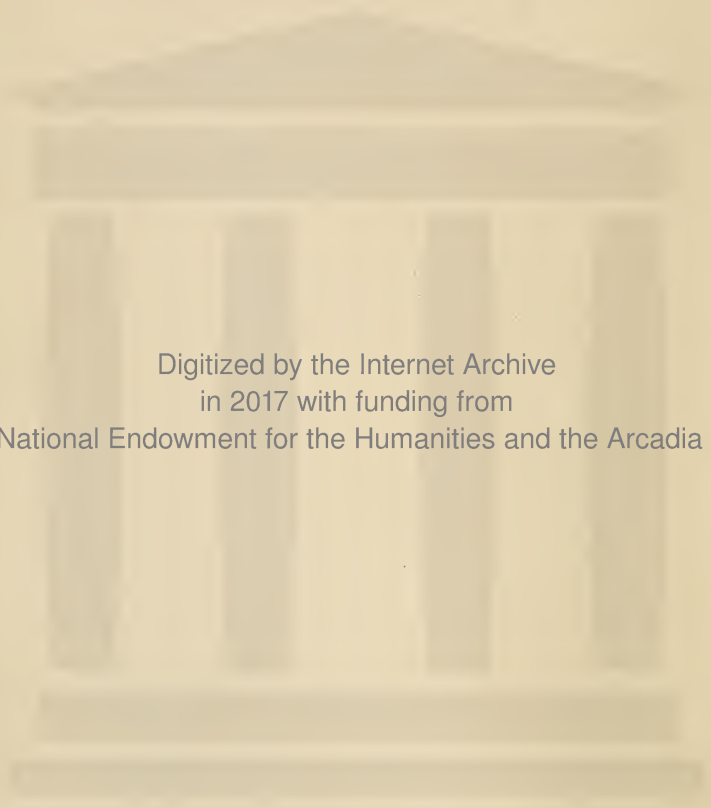


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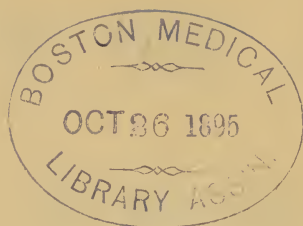
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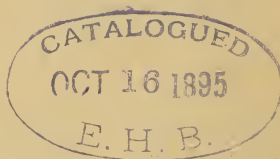
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## Original Articles.

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### THE TREATMENT OF TETANUS.\*

BY GEO. H. LEE, M. D., OF GALVESTON, TEXAS.

No subject in the whole range of medicine and surgery so strikingly and forcibly illustrates the influence of the microscope in medicine as that of Tetanus. Ten years have not yet elapsed since Nicolaier announced the discovery of the *Bacillus Tetani*, and yet the ætiology and pathology of this disease have been revolutionized or indeed first presented, and the indications for treatment outlined and clearly defined. A reference to the literature of the subject preceding this discovery gives absolutely nothing in the way of pathology except such changes as are present in the spinal cord, also in strychnia poisoning and in other conditions, the result of increased functioning in the reflex centres.

Regarding the cause of the disease there were many vague and unsatisfactory theories, but nothing tangible. The discovery of Nicolaier and the investigations of Kitasato, Rosenbache, Kitt and others, have established the following facts: The indirect cause of tetanus is a bacterium, the *bacillus tetani*. This organism is found in decomposing animal matters, manure heaps and in the soil of certain places. It is destroyed by heating to 150 deg. C. Tetanus has been produced repeatedly

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\*Read before the Texas State Medical Association, May 4, 1893.



in the lower animals by the inoculation of small particles of earth. Cultures have been made from the same source and also by inoculation from the wounds of human beings and of lower animals having the disease, and the disease has been produced in other animals by inoculation from such cultures. It has been demonstrated that this bacillus exists only in and close about the wounds of entrance, that it is not distributed throughout the tissues of the individual. Just as other forms of microscopical life are responsible for chemical changes, a familiar example of which is the production of alcohol by fermentation, so the bacillus tetani gives rise to certain new substances, toxines, and it is to the absorption of these that the symptoms are directly due. Four such toxines have been isolated, and their physiological actions described by Brieger. The first, tetanine, produced the symptoms of tetanus in mice when given in small doses. The second, tetatoxine, was followed by tremors, convulsions, paralysis. The third, not named, produced tetanic symptoms and also an increased secretion of the salivary and lachrymal glands. The fourth produced clonic and tonic spasms.

Certain conditions are necessary for the life of the bacillus, and for its usual function. It is anærobic. For this reason wounds partially cicatrized or partially protected from the air are most favorable for its development. Further, the presence of another bacterium, as the ordinary bacterium termo, or either of the pus-producing organisms, or a chemical substance, is necessary for the proper growth of the bacillus of tetanus. This is probably due to the fact that such other bacteria or such chemical interferes with the action of the phagocytes which would destroy the specific bacillus.

A careful study of the physiological action of these toxines shows a striking parallelism with strychnia, the same muscular contractions varying somewhat in character, due to a hyperæsthesia of the reflex centres of the cord and medulla, accompanied by a congestion of the vessels of the cord, the result of increased functioning and changes in the gray matter consequent most probably upon this congestion. Tetanus is then properly a toxæmia, the toxine being produced by a specific bacillus, located only about the wound of entrance, flourishing

only under certain conditions. The toxins act very much like strychnia in increasing largely the irritability of the reflex centres of cord and medulla, producing spasms of the muscles. The above facts lead the writer to accept the position of those authorities who hold that all tetanus is of traumatic origin. In the cases of the so-called idiopathic tetanus, it is probable that the wound of entrance was so small as to escape notice, or possibly might have been located at some point in the gastrointestinal, genito-urinary, or broncho-pulmonary mucous membrane.

Following these facts closely, the indications for the treatment of a case of tetanus may be clearly defined as follows:

1. The focus in which the toxins are being produced must be removed or destroyed. If the wound is favorably situated for conservative amputation such radical procedure would be most efficient. In other conditions the free use of the sharp curette, free excision of inflamed and suppurating centres, with thorough application of germicidal poisons, will meet this indication. Of the antiseptics, the bichloride of mercury, iodol and iodoform were in the hands of Sormani of Milan, absolutely destructive to the bacilli. Remembering that the micro-organism is anærobic the peroxide of hydrogen would seem to be a reliable agent. Aristol probably should be classed with iodol and iodoform. Kitasato found carbolic acid only feebly active in destroying the germ. Ten hours' immersion in a 5 per cent. solution did not diminish the virulence of the bacteria, while a one to a thousand sublimate solution destroyed them in thirty minutes. In my cases I have used strong solutions of bichloride of mercury (1 to 500), applying them for fifteen to twenty minutes, and when I felt safe in doing so have left a sponge saturated with this solution in the wound. No bad result has ever followed this practice, though it was not used when the wound was at all extensive. When the traumatism is in one of the mucous membranes such radical measures may be impossible, but the use of antiseptics should be thorough and persistent, although adapted to the peculiarities of each case.

2. The effect of the toxins upon the general system must be met by antidotes whose physiological effects counteract the

symptoms produced by the poisons, upon the same principles as a case of strychnia or other chemical poison would be treated.

If we review the physiology of muscle spasm, we will find that a muscle contracts as a result of direct stimulation, as from a blow or from an electric current applied to the muscle body. It will contract more promptly and efficiently as the result of a stimulus to the motor nerve to that muscle, and again it will contract as the result of a stimulus passing through or arising in the reflex centres of the spinal cord. An observation with the myograph of the phenomenon of a muscle contraction will show a short period of repose just preceding the contraction. But if the nerve impulse be repeated with sufficient frequency a state of continuous or tonic contraction can be produced, such as is witnessed in tetanus.

It has been already remarked that the anatomical changes present after death from this disease (tetanus) are congestion of the vessels of the spinal cord and medulla (not so marked as a rule as after strychnia poisoning); hæmorrhages with occasionally extensive extravasations of blood and serum, granular changes, centres of softening, all of which occur probably as the result of increased functioning of the reflex centres, and are found after death from those drugs which exalt the irritability of these centres. The tonic contractions of tetanus are then evidently the result of rapidly repeated nerve waves originating in the exalted irritability of the reflex centres of the medulla and cord. I submit there is no evidence of any direct action of the tetanus toxins upon the muscle fibres. The indication then is markedly for a spinal depressant; chloral, the bromides and the preparations of opium serve an excellent purpose. The first two, though, are difficult of administration and are apt to be cumulative, interfering with cerebration, and producing coma, in which it is impossible to nourish the patient, as occurred in a case of my own. Opium in the form of morphine hypodermatically can be administered more easily and more accurately, yet interferes with secretion and excretion, decreases the chance of nourishing the patient and locks up the bowels.

Physostigma or calabar bean seems to offer the most satisfactory antidote to the tetanus poison. The extract has been

most frequently used, but is not the most desirable preparation of the drug. It contains both the alkaloids calabarine and physostigmine or eserine. Calabarine causes convulsions like strychnia. Physostigmine or eserine stimulates muscle fibres and depresses the nervous centres. The purpose then should be to eliminate the action of calabarine by using always the other alkaloid, eserine.

If this paper succeeds in nothing further than emphasizing this one fact, the writer will feel he has accomplished much.

Pursuing the study of the physiological action farther, we find that the principle action of eserine is upon the nervous centres of the spinal cord and medulla as a depressant. The posterior columns of the cord are first affected, the anterior later. The pulse is slow. The respiration paralyzed by lethal doses. The muscular fibres, voluntary and involuntary, throughout the body are stimulated without any increase of working force. As the poison of tetanus is principally exhibited in irritating the reflex centres of the spinal cord and medulla, eserine at least partially meets the indication.

It is a strange fact that strychnia has been suggested as indicated to meet this symptom by so excellent authority as Prof. Valentine Mott, and indeed was used for this purpose by Dr. Edward Vandepoel, of New York, who recorded twelve cases so treated, eleven of which recovered. The doses of strychnia were 1-16 to 1-12 of a grain every two hours until involuntary twitching of the muscles of the extremities was noticed, when the masseters would relax. It is to be remembered that while strychnia in small doses exalts the irritability of the reflex centres, if pushed it depresses the same centres. But it is difficult for the writer to understand how in the conditions present in tetanus it would be possible to easily determine the appearance of muscular twitching as a result of the drug, and why the poisonous results of the drug did not appear, or why the convulsions were not emphasized instead of being controlled. Coming from such authority the facts must be accepted, though unexplained.

In my experience very much larger doses of physostigmine or eserine are necessary than is usually set down in the works on materia medica. My practice has been to begin



with  $\frac{1}{10}$  of a grain hypodermatically every 4 hours and gradually but quickly increase the quantity to  $\frac{1}{6}$  of a grain, or until the jaws are relaxed and the patient resting easily. This effect was procured in every case of my own in which the drug was used, the result being noticed not only by the medical staff of the hospital and the nurses, but also in each instance by the patient. In one case seen recently in consultation the most disappointing results followed administration of the drug. Instead of relief of the symptoms, which were opisthotonos with very marked and rigid contractions of the abdominal muscles, while the jaws were comparatively relaxed, convulsions followed each administration of the eserine. Presuming that the sample of the drug used must contain calabarine or other impurity, another sample was obtained and again administered. Convulsions promptly followed, and later temporary paralysis of respiration, the heart continuing to beat, and the patient reacting by aid of artificial respiration, to live 48 hours longer. In this case the point of infection could not be more definitely located than was disclosed by a specific urethritis recently existing.

The peculiar action of eserine in this instance was probably due to one or more of the following reasons: (a) An idiosyncrasy of the patient. (b) The presence of some impurity, which might have existed alike in both samples of the drugs, as both were Merck's. (c) The well-known fact that certain spinal depressants produce convulsions in certain cases by paralyzing the inhibitory centres of the cord.

3. Long since, the attention of the profession was directed to the necessity of removing all forms of external irritation, and of keeping the patient just as still and quiet as possible. A slight draught, a noise, a bright light, slight movement of the floor are sufficient to cause most violent tetanic contractions. It is highly important to place the patient in a darkened room where perfect quiet can be preserved. DeRienzi goes so far as to stuff the patient's ears with cotton. In young children this is very satisfactory addendum to the other treatment.

4. A large proportion of the deaths in tetanus are from inanition. Concentrated fluid food, peptonized milk, meat juice, beef and chicken broths, with whiskey or brandy when



indicated, in large quantities at regular intervals, should be given by the mouth, or, if impossible, to give these by the stomach, carefully prepared enemata will often bridge over a crisis.

Deviating from the usual order a study of the prognosis in tetanus in this light will present the following thoughts. The prognosis will be modified, (1) By the acuteness of the attack. Acute tetanus has always been and still is a most fatal disease. Classical authors of ten years ago declared that no well authenticated case of acute tetanus has ever recovered. On account of the difficulty of accurately defining precisely what is an acute case I prefer not to go on record as to an opinion in this matter. But I believe that the present methods of treatment furnish more subacute and chronic cases, and consequently, on the whole, much more favorable statistics. (2) Good general health, an excellent constitution, a time of life when the vital forces are unimpaired by too few years or too many, and freedom from the effects or accompaniment of other disease, all exert the greatest influence in the question of ultimate result of treatment. Tetanus in a new born baby or in the very aged is necessarily more fatal, precisely as it would be expected in a woman who had suffered from excessive post-partum hæmorrhages and died of the disease during the puerperium. (3) The prognosis will further depend on the possibility of removing the focus of infection. Where such focus is favorably situated and can be thoroughly removed and the surrounding tissues disinfected, the production and absorption of the poison can be stopped. Where it can not be done the outlook is not so favorable. Recently I saw a case of tetanus in a baby ten days old from suppuration of the umbilical vein. The temperature range was from 104 to 106. The child lived for seven days after I saw it, dying on the ninth day of the disease. Twice to three times daily the umbilicus was dressed with bichloride solution, each time a few drops of pus being squeezed out. The jaws relaxed under doses of  $\frac{1}{40}$  of a grain of sulphate of eserine by the mouth, so that the child nursed the bottle without difficulty. It died eventually of high temperature.

CASE I (full notes in NEW ORLEANS MEDICAL AND SURGICAL JOURNAL. October, 1890).—Woman, age 25 years.

Victim evidently of a suspicious abortion. An offensive discharge from uterus. The cervical canal was well dilated under chloroform, the uterine cavity thoroughly curetted, and douched with 1 to 2000 bichloride solution. Eserine sulphate, grain 1-12, given hypodermatically and dose gradually increased to 1-6 every 4 hours. Not much effect noticed until maximum dose was reached and morphia used occasionally in addition during the first few days. Under gr. 1-6 eserine every 4 hours, antiseptic douches, quiet and concentrated food, the patient recovered in a little over four weeks.

CASE 2.—Mrs. G., female, white, age 25 years. History of abortion a week before, with sore throat and stiffness of the jaws developing two days prior to admission. Jaws tightly contracted. Opisthotonos present. Offensive vaginal discharge. Temperature 102, pulse 120. Case treated precisely in same lines as No. 1. Discharge cured in six weeks. In both these cases during the latter stages as the symptoms of the disease were disappearing the usual dose of eserine (1-6 gr.), which had been born every 4 hours for days before with no bad results, produced nausea, vomiting, purging resembling mild cholera morbus. These symptoms disappeared without treatment, and were avoided in future cases by decreasing the dose of eserine as the tetanus improved.

CASE 3.—J. R., female, black, aged 40. History of illness of three days, with convulsions on the day before admission. An old, deep, ugly ulcer of leg with gangrenous edges. Suffering intense, jaws fixed, general muscular system tightly contracted. Pulse rapid and feeble, temperature ranging from 102 to 103. Patient was chloroformed; the ulcer thoroughly curetted, the edges being liberally cut away. The resulting wound was washed with 1 to 500 solution of bichloride and dressed with a liberal supply of iodoform. She was then placed in a private room, given eserine sulphate, the dose quickly increased to gr. 1-6 and concentrated fluid food. On account of the crowded condition of the hospital and the limited supply of trained nurses it was impossible to procure a competent nurse for this patient. She was intrusted immediately to another negro woman, and was visited at regular intervals by the hospital internes and by the trained nurses. The case pro-

gressed very satisfactorily until about the ninth day after admission, when during the morning clinic she had a severe convulsion which was relieved by chloroform and eserine. Upon investigation it was found that the usual dose of the last remedy had been omitted by mistake at the period preceding the convulsion. On the morning of the sixteenth day after admission one of the internes administered the usual dose of eserine at 12 A. M. and left the patient resting quietly, the sleepy negro woman in charge. The interne coming again at 4 A. M. found the patient dead upon the floor near a window ten to twelve feet from the bed, the apology for a nurse absent. In this case had the eserine been given at shorter intervals, being pushed to fuller effect and the patient properly nursed, it is a reasonable assumption that the result would have been different.

CASE 4.—N. B., female, white, aged 42 years. Nurse. Sore throat and stiffness in neck and jaws, beginning three days before admission, and rapidly extending. Body and legs covered with small abscesses from hypodermatic injections of morphia. A large abscess on calf of left leg. Patient had been using morphia hypodermatically for years, in quantity averaging ten grains daily. Temperature 101, pulse 90. Chloroform was administered, every abscess opened and freely washed out with one to 500 bichloride solution, the irrigation being continued for twenty minutes, then each was dressed antiseptically, several of the larger being packed with cotton wet in 1 to 500. These different wounds were dressed antiseptically every second to third day and healed rapidly. The sulphate of eserine was given subcutaneously in increasing doses until gr. 1-6 was reached, which was given every four hours for four days, then the interval decreased to every two hours. This dose was continued, the interval being sometimes two hours for days, then every three hours as symptoms were under better control, to be again every two hours for a time when it became necessary. The morphine was continued in grain doses hypodermatically six times daily. The pulse during the first few days grew slower, and later faster, running up to 110 and 120, always regular, though at times feeble. The respirations quickened and grew shallower, sometimes as many as sixty to the minute. The temperature ranged

irregularly, frequently going below normal and then rising to 101 and 102. Digestion good all the time. Bowels moving regularly. Patient's mental condition usually much depressed. Her room was kept darkened and quiet, and her diet carefully looked after. By the fourteenth day after admission she had begun to improve. The eserine was given at longer intervals, and the dose of morphine was gradually and carefully decreased. On the forty-ninth day the morphine was discontinued, and on the fifty-seventh day the last dose of eserine (gr. 1-12) was given, the patient making a complete recovery.

#### APPENDIX.

Since the above paper was read, I have through courtesy of Dr. Chas. L. Gwynn, of this city, treated another case of tetanus, which I desire to add as a further contribution to the statistics.

CASE 5.—Kitty L., female, white, age 6 years, was admitted to John Sealy Hospital May 12, 1893. For about three days prior to admission patient had been in bed with fever and some pain in neck. Gradually the symptoms of tetanus had developed until on the morning of May 12 her jaws were tightly locked, the whole of the muscles of the extremities in state of tonic contraction, with occasional paroxysms in which opisthotonos occurred. Examination disclosed a small, dirty, partially cicatrized wound on the plantar surface of the left foot, just behind the interval between the first and second toes, the result of splinter puncture of some ten days previous. Upon admission to hospital at 3 P. M., temperature was 100 4-5, pulse 108. She was given gr. 1-60 of eserine sulphate by the mouth at that hour with no appreciable effect. At 5 P. M. chloroform was administered and the wound on the plantar surface of foot was excised freely, the knife making an elliptical incision wide of the inflamed area and going deeply beneath it. The resulting wound was washed in 1 to 500 solution of bichloride of mercury, and dressed with a cotton pad wet in same solution. It was kept open and dressed in same way for ten days.

Eserine sulphate (gr. 1-30) was given at 6 P. M. without much effect. At 8:55 P. M. gr. v chloral hydrat and gr. x bromide of potash were given. At 9 P. M., 1 A. M. and 5 A. M., gr. 1-20 eserine sulphate were given. Patient rested very little



during the night. At 8 A. M. (May 13) the dose of eserine was increased to gr. 1-15. This dose produced very satisfactory relaxation of the muscle spasms and controlled the convulsions so that the patient slept at intervals during the day, and was able to take peptonized milk in small quantities. This dose was repeated every four hours. During the night of May 13 the nurse noted some disturbance of respiration, consisting of an irregularity and shallowness, also that the pulse was rapid and feeble. This she thought occurred after administration of the medicine. Whiskey 3ii and tinct. digitalis Mv were given. The nurse was then instructed to note pulse and respiration just as the eserine was given and again forty-five minutes later. The records of these observations show a slight slowing of pulse and respiration after each dose. The pulse throughout the case was very variable, being rapid and feeble when the muscles were tightly contracted, slow and even when the patient was resting quietly. May 14 it was noticed that the effect of the eserine would seem to wear off in about three hours, the muscles becoming contracted and the convulsions returning. The interval between doses was then decreased to three hours. An attempt to increase the dose produced nausea. The bowels were disposed to move too freely, and were checked occasionally by bismuth subnitrate and paregoric. This mixture was never required oftener than once in twenty-four hours. The effect of the eserine in promoting peristalsis was more decided in this case than in any of the others. Most probably for the reason that in this case only was it given by the mouth.

The dose (gr. 1-15) of eserine every three hours kept the patient relaxed, sleeping most of the time, and able to take proper nourishment in sufficient quantity. This dose was continued May 18, when it was gradually decreased. May 20 the dose was 1-20 gr. every three hours, and was continued thus until May 27. From this time the symptoms improved gradually, the dose of eserine was steadily lessened, and on June 7 its administration finally suspended. The child has entirely recovered, and at this date, June 13, is able to walk about the ward. This case was observed throughout by a number of the physicians of this city, who were especially interested in the subject. I consider this case the mildest of the five cases reported, and the records demonstrate this fact.



## REMARKS BY DR. DAVID CERNA.

I listened with much interest to the reading of Dr. Lee's paper on "Tetanus," before the Texas State Medical Association, and regretted that absolute lack of time prevented other gentlemen and myself (as we wished to do so) from discussing the subject. Afterward, through the courteous invitation of Dr. Lee, I have had an opportunity of seeing with him Case No. 5, and of watching with much interest the progress of the disease under the use of eserine. I have no doubt in my mind that the judicious employment of eserine in the instance I refer has been the means of saving life, and I fully believe that without this precious medicament the result would have been disastrous to the little patient.

Certainly the drug was given a fair trial, and it can not be denied that the results were brilliant. The case is an important addition to the literature of the subject, an excellent contribution to the interesting study of the therapeutic action of eserine, especially of the use of the remedy in the treatment of tetanus. I am happy to state that from the very beginning I fully concurred in the opinion of Dr. Lee, as regards the diagnosis of the malady; and having followed closely the effects of the drug in the case under consideration, the brilliant results obtained, I am sure, have been a distinct triumph for the alkaloid of calabar bean.

*A propos* of the treatment of tetanus, I may be permitted to say, further, a few words. I will confine my remarks to the consideration of the most recent therapeutic treatment of the disorder in question. I allude to the hypodermatic injections of antitoxine. That the disease is due to a micro-organism, the bacillus of tetanus so called, or to the product of this, appears to be well demonstrated, especially by the able researches of Nicolaier, Kitasato, Rosenbach and other investigators. How to act upon this germ or its by-product is the most important desideratum from a therapeutical point of view. Next to physostigmine or eserine, antitoxine appears to have of late given excellent results in the treatment of tetanus.

Determined by Tozzoni and Caltani\*, antitoxine was, I believe, first employed by Schwartz†, of Padua, and afterward by Gagliardi, of Molinella.

\**Centralbl. f. Bakter. und Parasitenk.*, No. 21, 1891. †*New York Medical Record*, Vol. XLI, 126.

Schwartz alleges to have cured a boy, fifteen years of age, and refers to another severe case also successfully treated by Gagliardi with antitoxine.

The antitoxine treatment of tetanus is of quite recent date, its literature being mainly European, and so far as I have been able to find out, no cases of this nature have been reported in this country. Following the line of experimentation laid down by Kitasato, Behring, reported by Baginsky,\* used in first case, that of a baby 9 months old, serum from a rabbit immunized against tetanus. Nine minims of the serum were injected in six doses, but no marked effect was observed, the failure being attributed to the small quantity of the substance employed. Later researches led Behring to the discovery that the curative power of the serum of an animal immunized against tetanus increased in proportion to the time the animal had been rendered proof against the disease. So that, for instance, while 1 gram of serum from a recently immunized animal would not protect an animal weighing more than 100 grams, after a period of months, serum from the same immunized animal would render proof against tetanus an animal weighing 500 of 1000 grams. The author further tells us that in the course of one year he has obtained from a horse serum having a protecting power of 1 to 5,000,000; in other words, 1 gram of such a serum would immunize 5000 animals, each weighing 1000 grams.

A case of traumatic tetanus, successfully treated by the method of Behring, has been reported by Rotter.† The patient received in all 250 grams of immunized serum, or a little over 1½ pints hypodermatically, and yet no deleterious after-effects were noticed. The treatment began sixteen days after the full establishment of the disease. For the first two days the tetanic phenomena did not yield at all to the injections, but after this time the symptoms gradually diminished until they finally disappeared.

Of the eight cases of traumatic tetanus submitted to Tizzoni's method, in four the improvement was immediate; but in the other four cases such an improvement did not appear until

\**Berlin. Klin. Wochens.*, No. 7, 1891.

†Commented editorially in the *Therapeutic Gazette*, April 15, 1893.

from 6 to 12 days. If the period of incubation of the disease is to be taken into consideration, as some contend it should, it may be stated that in these eight cases, with a single exception, the incubation period was ten days and over. It has been suggested by Rotter that these cases belonged to that class in which recovery might have taken place without the aid of antitoxine. The point remains somewhat doubtful.

Quite recently a very interesting instance has been reported to the Société Médicale des Hôpitaux, by Barth and Mayet, \* which appears to prove the antitetanic properties of antitoxine. A young man, 18 years of age, suffering from a very serious attack of idiopathic tetanus, received at intervals of from 2 to 9 hours hypodermatic injections of antitoxine, of 50 cubic centimeters (800 minims) each. In all, the patient received 330 cubic centimeters (11 ounces) of the substance, with the result of producing a complete recovery. No local reaction was noticed. The general reaction consisted in a considerable rise of the bodily temperature which lasted only for a short time, and in the appearance of an urticaria-like eruption lasting 36 hours. The definite amelioration was preceded by marked sweating. This case is exceedingly important, and the happy results obtained are attributed to the direct action of antitoxine, since no other remedial treatment was employed. The gravity of the case pointed to a fatal termination, and this would have undoubtedly taken place had not the antitoxine been given a fair trial. Antitoxine, I believe, is worthy of further use, and its introduction ushers a new and apparently brilliant era in the treatment of tetanus.

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#### A NEW CONCEPT OF THE DEVELOPMENT OF PULMONARY CONSUMPTION, WITH A TREATMENT BASED ON THE SAME.†

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*Mr. President and Gentlemen*—The following brief paper partakes more of the nature of a preliminary report than of an exhaustive paper. It is offered in the belief that attention is being

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\* *Rev. Intern. de Thérap. et Pharmac.*, March, 1893.

† Read before the Louisiana State Medical Society, May 11, 1893.

called to a pathological factor that has hitherto been overlooked, and with the hope that the mode of treatment herein indicated will be tried on a large scale in institutions where extensive tests can be made and careful records kept.

The bacillary nature of the tubercular process is now almost universally accepted. The most prominent opponent of this view is Gibbes, who claims to have found typical miliary tubercles independent of bacilli. The undoubted skill and sincerity of the Michigan pathologist entitle his assertions to a respectful hearing from the scientific world: but the combined testimony of a host of other observers, just as reliable as himself, is so overwhelmingly in favor of the bacillus as the essential factor in the tubercular process that we can not but feel that Gibbes has fallen into an error which time will certainly clear up.

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It is now eleven years since Koch proclaimed to the world his discovery of the bacillus tuberculosis. Bacteriologists have time and again demonstrated the agency of this organism in the production of all tubercular processes. Clinicians, however, rather tauntingly ask: "What good has Koch's discovery done to the world? The death rate from consumption is as great as ever; the only tangible result is the greater certainty in diagnosis, which, unfortunately, is afforded only when it is too late to do the patient any good. Practically, therefore, Koch's discovery is valueless."

In these days of intense activity in all branches of science, it does seem strange that eleven years should be spent vainly searching for a remedy for the most formidable of all diseases. Laboratory experiments have told us very precisely what chemicals are capable of destroying the vitality of the tubercle-bacilli, and in what strength, but when it came to applying these substances for the destruction of the organisms in the human body, it invariably turned out that there was something in the way, and clinical experiments never resulted in any lasting good. There was always an unknown quantity, which rendered nugatory all attempts at checking the tubercular process. It is the object of this paper to indicate what I believe to be the unknown factor and to suggest a plan for dealing with it.



It will doubtless strike every one as presumptuous, if not ludicrous, for a young member of the profession to dare to think that he had stumbled upon an important fact that has been overlooked by such men as Koch, Virchow, Billroth, Ehrlich, Jaccoud, Dujardin-Beaumetz, Grancher, Paget, Clarke, Flint, Loomis, Pepper and hundreds of other men famous as sound thinkers; but, strange as it may appear, I think it is so, and I offer my suggestions to the profession with the hope that they may be given as fair a trial as the importance of the subject demands.

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Let us begin by tracing the wanderings of a lonely bacillus on mischief bent. The bacillus (or its spore) may gain an entrance into the system by two ways: first, through the alimentary canal; second, through the respiratory tract. Let us follow it along both of these roads.

When a bacillus is taken into the stomach with the food it soon comes in contact with the gastric juice. When the stomach is in a normal condition the bacillus is not allowed to leave that viscus alive: it is very promptly destroyed by the gastric juice, and the proteid matter of the invading bacterium undergoes a common proteolytic transformation, and it ceases to exist as an organized entity, capable of reproduction. If, on the other hand, the gastric juice be altered and unequal to the task of digesting the bacillus, this organism (or its spore) passes into the small intestine where it meets with an alkaline medium favorable, perhaps, to its development. It takes several hours for the chyme to pass down the small intestine, and during this time the little bacillus, finding itself under favorable conditions, soon multiplies and its progeny becomes quite numerous. Right here we come to a point in our subject which will have an important bearing on all that we will have to say in regard to treatment. It is this: the unkilld bacillus, or its spore, although very minute, is still a particle of solid matter, and not capable of passing into the blood vessels by osmosis. Like the emulsified fat it is taken up by the lymphatics. In these vessels the bacillus encounters two enemies, the lymph and the lymph-corpuscles. All of the fluids of the body have some germicidal power; even freshly passed urine is feebly thus



endowed. The great sepulchre of bacteria is the serum of the blood; when this deteriorates, the greatest bulwark against invasion is thrown down. The lymph in the lacteals, being derived, as in other lymphatic vessels, from the blood-serum destroys the bacilli, and the lymph-corpuscles, by their action as phagocytes, may also destroy the intruder. This destruction takes place only when the lymph and the phagocytes are in a normal condition. When these agents have become weakened by disease or any other cause, they do not protect the system but are overcome by the invader. The bacillus is swept along the lacteal until it enters a lymphatic gland.

Here it has to fight another battle. The lymph corpuscles in the ganglion form a wall, which, in the normal state, constitutes an effectual barrier to the further progress of the bacillus; but, if they, too, are weakened, the resistance they offer is of no avail; the bacillus gains the battle and acquires a firm foothold in the animal economy. In the enfeebled mesenteric gland the bacillus finds a suitable soil for its development. It increases and multiplies, and the gland that should be the graveyard for the bacillus really becomes its breeding ground.

We must direct special attention to this point, because it serves to point out where our treatment should be chiefly directed, and also why the various plans of treatment heretofore employed have been almost fruitless.

The diseased mesenteric gland is, in our first case, the stronghold of the bacillus.

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Let us now follow a bacillus when it is taken in with the respired air.

Here again in the respiratory tract we find that nature has been prodigal in providing us with safeguards against bacterial invasion. In nasal respiration, many of the particles of dust in the inspired air adhere to the nasal mucous membrane. The normal pituitary secretion has been shown to possess a distinct germicidal power; and even if this be not sufficient entirely to destroy the bacillus, it at least keeps the intruder quiet until expelled by blowing the nose or otherwise. If the bacillus happens to lodge on the pharyngeal wall, it may be destroyed

by the pharyngeal tonsil or else expectorated. When the bacillus gets as far as the trachea, it finds a mucous membrane which is impervious in its normal condition. The cilia of the epithelial cells waft the bacillus toward the larynx, and when it arrives there it is coughed up before it has a chance to do any harm. Now, the ciliated epithelium extends as far as the terminal bronchioles, and the epithelium changes in character just before the bronchioles open into the infundibula. The epithelium here is of the flat, pavement variety. The walls of the bronchioles are devoid of cartilage, and hence do not remain open constantly, as the larger tubes do, but open only after inspiration has begun, and close with the act of expiration. This action, it seems to me, makes it impossible for a bacillus to gain access to an alveolus, for it would adhere to some part of the bronchial tree before reaching a bronchiole. It would thus become deposited upon ciliated epithelium, which would propel it upward until it would get high enough in the trachea or larynx to be coughed out.

A normal, intact mucous membrane is impervious to bacteria. There must, therefore, be some morbid condition that permits the micro-organisms to enter the system before they can do any damage.

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We spoke above of the normal respiratory mucous membrane, and its action as a barrier against bacterial invasion. Let us now follow the course of a bacillus when the mucous membrane loses its safeguarding power.

A patient, say, has had a cold in the chest. The first change that occurs in ciliated epithelium as a result of inflammation is the loss of its cilia. If a bacillus happen to lodge on some epithelial cells denuded of their cilia, it simply remains there. The cilia, if present, would sweep the bacillus away, but the epithelial cells, shorn of their cilia, can not make it budge, and there it stays. But the mere fact of its staying there is not enough for it to do harm, for the deeper layers of epithelial cells of the mucous membrane are firmly bound together by the intercellular cement, and here again is an impassable wall. When, however, a deep erosion or super-

ficial ulcer has been caused by the inflammation, the bacillus finds a weak spot in nature's defences, and if it happen to lodge on the eroded surface it finds no agencies capable of dislodging it, but, rather, agents that result in its absorption. On the ulcerated surface it meets again with phagocytes, and the battle between them goes on as bravely as in the lacteals.

Here again we call attention to the fact that the bacillus and its spores are solid substances; they do not dissolve, and consequently can not pass into the blood vessels by osmosis. It is true that the white blood corpuscles pass through the capillary walls by diapedesis; but the tubercle-bacilli are not white blood corpuscles.

The bacillus whose adventures we are narrating is carried by a phagocyte into a lymph-space, and from this is borne along a lymphatic vessel to the first bronchial lymphatic gland. It is intercepted by this gland, which, if normal, destroys the intruder; but if the gland be deteriorated, the bacillus finds itself lodged in comfortable quarters and it immediately proceeds to pullulate.

When the bacillus gets a good start it is a difficult matter to check its progress, for a "good start" on the part of the bacilli implies a weakening of nature's defences all along the line. The bronchial glands communicate with one another, as do all groups of lymphatic glands. The infection may start in a single ganglion, but as soon as it has enough bacilli, some of them are carried, either suspended singly in the lymph-stream or as infarcts, to the neighboring ganglia, and thus the whole group soon becomes infected. When the proximal members of the group overflow with bacilli, the infarcts are carried along the lymphatic vessels to the thoracic duct, which pours the infected material into the left subclavian vein at the root of the neck.

In the mesenteric glands the same thing takes place. When the last members of the group become infected they cast off infarcts containing bacilli, which pass into the receptaculum chyli and then along the thoracic duct, to be dumped into the systemic circulation at the root of the neck.

We have traced the bacillus from its absorption into the body to its entrance into the great lymphatic vessel. Let us now turn to another point in our subject.

Physicians have known for centuries that pulmonary tuberculosis showed a predilection for the upper lobes of the lungs. While the fact was well known, no clear explanation was for a long time forthcoming. Last year, Dr. J. West Roosevelt, of New York, advanced a theory which seems to me to be the most rational explanation thus offered of the localization of phthisis in the upper lobes.

Dr. Roosevelt says: "The younger tubercles, so far as my observation goes, are usually found near the entrance of the bronchiole into the lobule. This is precisely where the pulmonary artery, which accompanies the bronchiole, abruptly divides into capillaries. The terminal branch of the artery is quite large; the capillary network, although abundant, is composed of vessels of small calibre. It is here, where the younger tubercles are found, that one would expect a small embolus to be arrested. \* \* \* It is improbable that the bacilli are ever drawn into the vesicles anywhere in the lung with the inspired air, and inconceivable that the direct action of the air-currents should determine in such a majority of cases the primary infection of the upper lobes.

"The pulmonary artery, soon after its origin, divides into two large trunks which curve outward to the lungs. The convexity of the curve is *directed upward*; the first branches given off from the main trunk supply the upper lobes of the lungs, and these arise from the convexity of the vessels. These first branches give off others, which pursue a straight course to the surface of the lungs. Any substance introduced into the systemic veins must enter the pulmonary artery if not stayed in its course; and if too large to pass through the pulmonary capillaries they will be arrested at the first capillaries that they encounter. Owing to the large diameter of the pulmonary arterioles, emboli of considerable size can pass through the whole length of the artery, to be arrested at the point where it abruptly breaks up into capillaries. \* \* \* The masses containing the bacilli float in the blood, and are usually heavier than blood-serum. When the tubercular emboli float in the blood, they follow the same laws as all other suspended particles moving with a current of liquid having a lower specific gravity than themselves.



“Being heavier than the blood the emboli seek the peripheral (convex) side of the pulmonary artery, and that is precisely the part of the artery that gives off the branches to the upper lobes. The emboli rush out of the main vessel at the first opportunity, and they pass into the branches that supply the apices. When the emboli arrive at the broncho-lobular junction, they are arrested by the capillaries arising in a bunch from the terminal pulmonary arteriole. Being planted at this point, the bacilli begin to fight for a living, and if the condition of the patient’s tissues and fluids be good, the bacilli are destroyed, and no harm results; but if, on the other hand, the bacilli hold their own, they germinate and produce a tubercle.”

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We see in Dr. Roosevelt’s theory an application of everyday common-sense principles to pathological processes. There is one point, however, that the doctor leaves untouched—namely, the manner in which the particles of tubercular matter gain an entrance into the pulmonary circulation. In order to form a tubercle, the particle of tubercular matter must form an embolus at the point of the breaking-up of a pulmonary arteriole into capillaries. Now, in order to form an embolus, it must be larger than the diameter of a capillary; for, if it were smaller, it would rush through these minute vessels just as the corpuscles and the granules do. A moving tubercle-bacillus can not form a tubercle any more than an acorn that is kept whirling around in the air can form an oak tree. We might imagine a patient’s blood full of tubercle-bacilli, and still not have localized tubercle, just as the blood can be filled with the embryos of the filaria. The bacilli found floating in the blood of consumptive subjects are derived from the tubercles already formed in the body, which tubercles have developed from tubercular infarcts carried from the mesenteric and bronchial ganglia into the circulation by the thoracic duct.

The tubercular particles mentioned by Dr. Roosevelt do not pass through the portal circulation, for the capillaries of the liver are just as small as those of the lung, and the lungs would be protected at the expense of the liver. Hepatic consumption would then be the scourge of the human race instead

of pulmonary consumption. Again, if the particles were absorbed through the respiratory mucous membrane, they would first pass through the pulmonary veins to the left side of the heart and go through the systemic arteries and capillaries before reaching the pulmonary circulation.

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It is interesting to note here the results of the investigations of Pizzini upon the bronchial lymphatic glands [*Practitioner*, March, 1893]. He endeavored to ascertain the distribution of tubercle-bacilli in the lymphatic glands of persons not suffering from tuberculous disease. "Cases were selected of patients who died from accident or acute disease other than tuberculosis, and pieces of their bronchial glands were injected under the skin of a guinea pig. Similarly, parts of the abdominal and cervical glands were used in other guinea pigs, and the results noted. The most striking conclusion arrived at was that tubercle-bacilli may be found in the lymph-glands of patients dying of acute disease or a violent death in as large a proportion as 42 per cent. Several cases demonstrated their presence in persons of notably sound constitution. These facts appeared to show that the bacilli, after passing through the epithelial protection are destroyed in certain circumstances by the phagocytes of Metschnikoff, while in other instances they lead to a primary glandular tuberculosis, which becomes general. But in most cases they remain in a quiescent state in the glands, more especially the bronchial glands, retaining, however, their power of infection. The circumstance that the bacilli are found almost exclusively in the peribronchial gland depends upon the position of these glands, the inspired air acting as the most potent carrier of infection. Moreover, their position in the bifurcation of the trachea permits an entrance more readily than in the lung tissue, for under the mucous membrane, in the lower part of the trachea and bronchi, is a continuous net-work of lymphatics which are intimately connected with the bronchial glands. If the resistance of the mucous membrane is lessened by a slight bronchial catarrh, the direct passage of the micro-organisms into the bronchial glands is favored, and having effected an entrance

they may remain for an indefinite time. This does not happen, at all events not so frequently, in the other glands of the body. In none of the cases examined were the bacilli found in the abdominal glands, thus explaining the relative rarity of infection through the intestinal canal as compared with the lung. The acid of the gastric juice is often sufficient to destroy the virulence of many micro-organisms. With regard to the cervical glands, two out of the thirty cases were found by Pizzini to have tubercle-bacilli, but in both the peribronchial glands likewise contained them, so that it is possible they were all infected through one original channel.

Another conclusion to be drawn from these observations is that too great importance should not be laid upon sources of infection, as the resistance of tissue would appear to be of greater value. Pizzini quotes from the statistics of the Brompton Consumption Hospital, where in fifteen years none of the resident staff suffered from tuberculosis; and thinks that the state of the blood is of the highest importance. If this alters, then the bacilli in the glands find favorable conditions for their development, and infection of the organism is the result. Probably this is the *rationale* of cases of miliary tuberculosis occurring in the course of chronic disease (non-tuberculous), such as lead poisoning and diabetes.

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In treating consumption with medicines, clinicians have not fully availed themselves of the important aid extended by pathology.

When a medicine is ingested it is taken up by either the capillaries or the lacteals. If the medicine be soluble it passes along the portal vein to the liver, and then into the vena cava, and then into the pulmonary artery. If the patient's mesenteric glands are the seat of a tubercular process, the medicines skip by the focus of infection for the system. Fresh masses of tubercular matter are being constantly thrown into the already weakened lungs, and the medicine fails to reach the fountain-head of infection. It is the same with the bronchial glands, the medicine that goes through the portal circulation does not come in contact with the breeding ground of the disease. The diseased bronchial glands remain undis-

turbed as producers of infectious material, and they continue to pour the infarcts into the thoracic duct, which eventually find their way into the lungs.

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What conditions, then, are requisite for a remedy to reach the diseased mesenteric and bronchial glands?

The first condition is that the remedy chosen shall not be in a state of solution. There are many substances that are capable of destroying the bacillus tuberculosis; but if the drug be ingested in a state of solution they are taken up by the portal system, and thus they fail to reach the breeding ground of the bacilli when the mesenteric glands are involved. The remedy should be in a state of emulsion. The particles of emulsified fat hold the remedy in solution, and if the combination be strong enough to resist the separating action of the gastric and intestinal juices, the emulsion will be absorbed by the lacteals and carried directly to the diseased mesenteric glands. The remedy thus reaches the very point at which it is needed. It will be observed that the drug follows the trail of the bacilli.

I have used iodine as the germicide in consumption. At my suggestion, Mr. George Dejan, a pharmacist of this city, made a solution of iodine in pure oleic acid; this solution, or mother-liquor, is a 10 per cent. solution. From this, a perfect emulsion is made. The one made by Mr. Dejan contains four grains of iodine to the ounce. Of this I order the patient to take one or two teaspoonfuls three times after eating. I have treated about ten cases. I have been unable to keep records of temperature, weight, etc, but the little that I have seen has encouraged me to continue the treatment.

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But what line of treatment is to be followed when the bronchial, and not the mesenteric, glands are involved? I have had no experience, but it appears to me that iodine, or aristol, or some other antiseptic, should be liberally sprayed into the trachea in an unalterable emulsion, and not in a solution; emulsified or suspended particles will be taken up by the lymphatics and carried to the diseased bronchial glands which are the foci of infection. I have used a solution of iodine in oil, but it is too soon to report results.



It will be recalled that Drs. Shurley and Gibbes, of Michigan, devised a treatment embracing the inhalation of atomized chlorine-water and the hypodermic injection of a solution of iodine. This mode of treatment has not supplanted others, and will not, we fear, until the learned doctors hit upon some method of introducing their iodine and chlorine into the diseased bronchial and mesenteric glands.

[Since the above was written, I have been using a 10 per cent. solution of ichthyolin benzoinol sprayed into the throat.—A. McS.]

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#### SIMPLE COMMINUTED FRACTURE OF THE UPPER THIRD AND COMPOUND OBLIQUE FRACTURE OF THE LOWER THIRD OF RIGHT HUMERUS.

BY EDWARD L. FOX, M. D., LATE RESIDENT PHYSICIAN AND SURGEON TO COOK CO. HOSPITAL, CHICAGO, ILL.

John M. was at work laying ties when he was struck by a passing engine, throwing him some distance. He was brought to the hospital by an ambulance two hours after receiving the injury.

On physical examination I found the patient well formed and nourished, of light complexion, brown hair and blue eyes. Height, 6 feet 1½ inches; weight, 185 pounds. Patient was conscious and talked about his injuries. He had numerous abrasions and contusions about the head, face, body and extremities.

His right arm was bandaged on a long splint by the ambulance men, which, on being removed and a careful examination made, showed a simple comminuted fracture of the upper part of humerus about four centimeters from the head, a compound oblique fracture about six centimeters from the lower articulation, which had two openings, one on the internal and the other on the external aspect of the arm.

About four centimeters below the olecranon process there was another opening, but on being carefully probed it was found only to extend upward to the articulation and not entering the synovial sac.

Treatment—Patient was anæsthetized with ether, the arm was then shaved, scrubbed with green soap and sterilized water, thoroughly irrigated with bichloride of mercury solution

1-2000. The aseptic wounds were packed with iodoform gauze, and the arm was put in wet dressings of the sterilized, saturated solution of boracic acid.

A straight splint extending from the axilla to the palm of the hand was applied. In the morning his temperature was 100 deg. F. I removed the dressings and found the arm very much swollen and discolored, but no pus was found in the wounds. The arm was dressed as before, after being thoroughly irrigated with bichloride and sterilized water. I prescribed quinine (grs. ii) every two hours. The second day the temperature ranged from 102 to 103 deg. F. I removed the dressings in the evening and found the arm swollen to a surprising degree, discolored, very painful and pitted on thumb pressure. I decided to use constant irrigation; the arm was thoroughly irrigated with sterilized water and about one dozen sterilized dressings applied (dressings 1 yd. of cheese cloth), this was covered with rubber protective, and the arm was then placed upon an inclined splint with a rubber sheet beneath to keep the bed dry and conduct the water to a pan placed beside the bed. A glass irrigator was then placed above the bed (being packed in a box containing ice), and a rubber tube carried a small stream to an opening in the dressings near the shoulder. Running along the arm through the dressings, it came out of the lower opening, making a constant stream of cold sterilized water. In the morning his temperature was 102 deg. F., the dressings were removed and the wounds were irrigated with bichloride solution, then peroxide of hydrogen, which was followed by sterilized water. The arm was slightly improved; it was dressed twice daily for ten days.

On the third day he had a chill about 4 o'clock in the afternoon. The quinine was increased to grs. 3 every two hours, but was discontinued during the night. The fourth day he had a slight chill, and on the fifth day, but after that he had no return of the chills. The first few days of the constant irrigation the temperature would rise at night from 102 deg. to 104 deg., and during the day range from 101 deg. to 103 deg. The pain was greatly relieved by the irrigation and the swelling gradually subsided. From the eighth day the temperature gradually fell until it became normal.

The two openings of the compound fracture remained free from pus and healed rapidly after the cellulitis subsided. The wound below the olecranon process was found to contain pus on the fifth day, but in very small quantity. It was irrigated with bichloride solution and peroxide of hydrogen. A small quantity of pure tincture of iodine was injected and the wound thoroughly irrigated with sterilized water and then packed with iodoform gauze. By culture and the microscope the staphylococcus pyogenes aureus was demonstrated. Constant irrigation was continued night and day for the first twelve days; four or five days after this it was kept up during the day only. I was afraid that amputation would be necessary to save the patient's life for the first four or five days, as the fever was so persistent, with the other marked signs of septicæmia.

Three weeks after he had received the injury the wounds had healed sufficiently and the arm was in condition to be put in a cast. I anæsthetized the patient with chloroform, approximated the fragments and placed the arm in a plaster of Paris cast. The elbow was bent at a right angle and the forearm placed midway between pronation and supination. The cast was removed in four weeks, good union having taken place in the fragments. The disfigurement was considerable, the shortening of the humerus being about six centimeters. There was a fibrous ankylosis of the elbows joint, which has improved much by motion.

*Houston, Texas.*

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## Correspondence.

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### EFFECTS OF PEROXIDE HYDROGEN ON GONORRHOEA.

*Editor of the New Orleans Medical and Surgical Journal:* Patient presented himself to me on April 8 with a severe case of specific urethritis. Penis very much swollen and discharging a large quantity of pus and very painful; patient could hardly void urine at all, the stream about the size of a medium size probe.

I put patient on diuretics and after acute symptoms subsi

ded prescribed an injection of Listerine and *Pinus Canadensis* to be used twice a day.

After the use of both internal and local treatment for several weeks the patient did not improve at all. I kept up various treatments for over two months without any benefit. My patient became discouraged and so did I; and I concluded to try the peroxide of hydrogen, having seen it used in the Charity Hospital at New Orleans while there as a student. I ordered a 3vi-bottle and had a syringeful of it injected well up into the urethra three times a day. After three days' use the discharge ceased and patient got sound and well in a week's time from the beginning of its use.

My faith in the solution now is very strong and would advise my Bro. M. Ds. to try it.

BUNYAN S. EZEL, M. D.

*Kosse, Texas.*

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting May 19, 1893, W. R. Townsend, M. D., chairman.

#### SEVERE CALCANEUS AFTER A WILLET'S OPERATION.

Dr. Halstead Myers presented a patient upon whom he had operated for severe calcaneus which had recurred after a Willet's operation. The anterior tendons were divided and forcible manipulation failed to overcome the deformity. Through a posterior vertical incision he then easily exposed the astragalus, and removed a wedge from its upper surface, which had become hypertrophied from lack of normal pressure. The wedge was made three-eighths of an inch thick on the inner side, and one-eighth of an inch on the outer side to correct a valgus present. The apex of the wedge corresponded to the anterior edge of the tibia. The articular surface of the tibia was scarified and the foot easily brought to the normal position. The tendo Achillis was a mere ribbon and was not shortened. The position is good now, seven weeks after operation, and there is apparently no motion at the ankle joint. The child is to wear an ankle brace with a higher heel for some time.



Dr. S. Ketch said this case was brought to his clinic at the Woman's Medical College, and at that time the deformity was pronounced, so that it seemed as if only a radical operation would be successful. He believed that Willet's operation had been performed on the patient several times. He referred the case to Dr. Myers, and he was very much gratified at the result.

The chairman said that Willet's operation had been done a great many times at the Hospital for the Ruptured and Crippled, but increased experience had taught them that it was only one step in the treatment of calcaneus. Careful support was necessary after the operation to prevent relapse.

#### NEUROMIMETIC CLUB-FOOT.

Dr. S. Ketch presented such a case. He first saw the patient at the Orthopædic Dispensary on May 15, 1893. She was about 15 years of age, and had never menstruated. The history is that three months ago, as a result of a sudden twist, the foot became contracted, and she was not able to straighten it again. Examination showed that there was atrophy of the calf, and some contraction of the adductors of the thigh, the inward rotators, and the tibialis anticus; the foot was in marked varus; there was no equinus, and no shortening. As she walked, the limp was very pronounced. The foot could be entirely replaced by gradual manual force. At this time the foot was very much more distorted than at present. A diagnosis was made of neuromimetic club-foot. As is characteristic of such cases, there were the hyperextended toes, and a degree of varus altogether out of proportion to the contraction of the foot. Previous to this the girl had given no evidence of hysteria. By simple suggestion he had been able to improve her condition very materially.

Dr. Henry Ling Taylor agreed in the diagnosis. He was reminded of a patient whom he attempted to treat by a brace, but she insisted upon taking it off at short intervals. After some time she developed, or claimed to develop, a hemi-anæsthesia, which involved the lips and tongue, and one entire half of the body. After several weeks she also developed a peculiar attitude of the hand on the same side. Within a month or six weeks she completely recovered.

#### OPERATIVE AND MECHANICAL TREATMENT OF FLAT-FOOT COMPARED.

Dr. Ketch also presented a patient, nineteen years of age, who afforded an excellent opportunity for comparing the results of operative and mechanical treatment. He first came to the

dispensary one year ago, complaining of considerable pain in the soles of both feet on walking. There was very marked prominence of the sole, and bulging of the scaphoid and other tarsal bones. The condition had lasted for about three years. After a short time he disappeared, and on his return it was learned that the left foot had been operated upon about three months before at the Presbyterian Hospital. He had been unable, however, to ascertain the exact nature of the operation. The patient walked on the outer side of his foot.

Dr. R. H. Sayre said he had not met with any cases of flat-foot which he had not been able to make comfortable without a bone operation, and those which he had seen operated upon by others had not seemed to him to yield as good results as mechanical treatment.

“THE FORCIBLE CORRECTION OF ANGULAR DEFORMITIES OF THE KNEE BY MEANS OF A SPECIAL MECHANICAL APPARATUS.”

Dr. Joel R. Goldthwaite, of Boston, read a paper with this title, and demonstrated by many large photographs and by apparatus his method of treatment.

DISCUSSION.

Dr. Halsted Myers described a simple method which he had used successfully to reduce the lateral dislocations which occur in the course of knee joint disease. Adhesive straps were applied to the leg, and a plaster of Paris splint applied from the upper part of the thigh to the lower part of the leg. A large window was cut in this splint from the level of the joint to the lower third of the leg, diametrically opposite the deformity, to allow the bones to be drawn in that direction. By means of a webbing strap, previously passed around the upper part and fastened over a steel spring, which crossed it, traction was made forward and inward. Longitudinal traction was also made by fastening the offensive plasters to a perineal crutch which was always a part of the apparatus. The treatment was illustrated by the exhibition of a patient who was wearing this apparatus.

Dr. R. H. Sayre exhibited an apparatus which he had used on a case in which the knee was ankylosed at about 45 degrees. It would not be suitable for greater angles. The apparatus was modeled after Robin's osteoclast. In the case referred to he was unable to loosen the patella. Where the patella had slid forward to the lower extremities of the condyles of the femur, he could not see how it was possible by

mechanical force to slide the tibia forward to a proper bearing surface until the patella had been gotten out of the way. It might be necessary in some cases to loosen the patella through an incision by means of a chisel before applying the apparatus. In a case in which he thought there was only fibrous adhesion he adopted this plan, but after the patella was free it was impossible to reduce the posterior subluxation of the tibia. Excision was therefore performed, and he then found a remarkable hypertrophy of the spine of the tibia, which prevented by its projection into the intercondyloid notch the reduction of the deformity. He thought the great pressure which Dr. Goldthwaite's apparatus exerted against the condyles of the femur would cause a great deal more traumatism than walking. It was partly on this account he had preferred modifying Robin's osteoclast to using the apparatus devised by Dr. Bradford, as his patient still had tender spots on the condyle, although active symptoms had been absent for years. The fact that there was so much movement in Goldthwaite's cases was pretty conclusive evidence that there was more peri-arthritis than arthritis.

Dr. Ketch said the fact brought out in the paper, that after the locking of a joint for many years one is able by such a process to restore considerable motion, was in itself very interesting, and perhaps opened up a new field in the treatment of such cases. It certainly emphasized what every orthopædic surgeon sees as a result of long continued mechanical treatment. He referred to two cases which he had just seen, in which persistent mechanical treatment had overcome what at one time was thought to be bony ankylosis. This should teach us that no matter how long a joint has been locked, so long as no true bony ankylosis is present, one should not despair of obtaining even a considerable degree of motion. The most interesting practical point in this treatment is the possibility of lighting up an old tubercular process. The cases reported in the paper would seem to justify us in taking this risk at least until we have further information on the subject.

Dr. H. L. Taylor had been greatly interested in Dr. Goldthwaite's work since the publication of his first article. The mechanical means were certainly well adapted to accomplish the desired result. In the treatment of inflammation of joints, it had seemed to him always well to combine traction with whatever force is applied, and he thought adhesive plasters could be applied to the leg, and used in connection with Goldthwaite's apparatus. However, from the action of the apparatus, the small amount of reaction following the operation, and the ultimate results obtained, it seemed to him that traction

must be exerted by the apparatus, and that it left very little to be desired. His father, Dr. C. Fayette Taylor, described in 1879, in the *New York Medical Journal*, an apparatus which he had devised, called a genuclast. In it, counter-traction above and below the knee was combined with an excentric leverage which was perfectly under control. It was successfully employed in a number of cases, but the method was not so well adapted to overcome the subluxation of the tibia as that presented in the paper this evening. As Dr. Ketch had remarked, those who had not had an extensive experience in orthopædic surgery could hardly realize how much could be accomplished by persistent, gradual treatment.

Dr. Ketch asked if Dr. Goldthwaite had used it as a gradual corrector of deformity, and receiving a negative reply he suggested that an apparatus might be constructed on the same principle which could be used as a walking brace.

Dr. H. W. Berg asked if the popliteal abscess which occurred in one of the reported cases was the result of the forcible straightening of the limb, or was the result of an osteitis. He had, in common with most general practitioners, preferred to use the gradual method for fear of just such a complication.

Dr. Whitman said he had understood the author to say that the cases were selected—namely, were those in which amputation or excision had been advised. Why were no tenotomies done? Was it because most of the resistance was supposed to be in the posterior portion of the capsule? Personally, he believed that subcutaneous tenotomy would aid very much in the replacement.

Dr. R. H. Sayre said that the suggestion of Dr. Ketch had reminded him of his father's knee splint, in which traction is made in the axis of the leg, and at right angles to the long axis, by bands passing across the front of the thigh, and behind the calf, and around the bars of the instrument, in the same manner as traction is made by the screw in the apparatus just exhibited.

Dr. Goldthwaite, in closing the discussion, said that the discussion seemed to indicate that his method was not applicable to acute cases, yet Dr. Sayre's patient with the tender points was an acute case. His method and apparatus were only intended for a certain, small class in which all acute symptoms had disappeared, and in which some severe operation, like amputation, or excision, would be otherwise attempted.

The pressure is applied evenly to the end of the femur by a leather band, and does not cause any trouble. The chances are that in cases in which there is firm, bony ankylosis of the



patella to the femur, there would be bony ankylosis of the femur to the tibia; this would exclude it from the class suitable for this treatment. If, however, there were only firm fibrous adhesions, the application of his apparatus would be justifiable. He was willing to admit that in the case which did so well, there was probably very little intra-articular disease, yet it was in the hands of the general surgeon, and was to be submitted to excision. Quite a number of the cases had had gradual extension by means of a weight and pulley in bed for several months, but with absolutely no benefit. It should be remembered that the class of cases in which his operation is to be done is where the adhesions are so firm that this treatment can not be expected to succeed.

The fifth case was not a proper one for forcible correction; the patient was in a poor general condition; there was tuberculosis of the lung, and probably also tuberculosis of the knee. The treatment probably caused a lighting up of the tuberculosis in the knee, but it was a choice between taking this risk and allowing him to remain a hopeless cripple.

Tenotomy had been done in two of the cases, and while it was certainly not a serious procedure, it did not seem to be at all necessary, and hence he thought it was better to avoid it, as it certainly prolonged the period of convalescence.

A total of eleven cases had been treated by this method, and in no instance had there been the slightest acute trouble, except in the last one reported, which, as had been said, was not a fair case for the operation. Excluding this, there had been no relapses. The first case was done in 1887, and the woman is perfectly well, and has a very useful limb. The most recent operation was done last February, and she had had no trouble up to the present time.

One severe case of gonorrheal rheumatism, which had been in the hospital for the greater part of five years, had a right-angled contraction, extreme valgus and rotation, yet he left the hospital ten days after this operation, and has been at work ever since.

In two other cases, where the deformity was the result of an ordinary articular rheumatism of one year's duration, an amputation had been advised by a well known surgeon on account of the constant pain and deformity. The pain existing in rheumatic arthritis and in gonorrheal rheumatism is relieved by breaking up the adhesions in this way; hence pain is an indication rather than a contra-indication to the operation.

On motion a vote of thanks was tendered to Dr. Goldthwaite for his kindness in coming to New York and presenting such an interesting and instructive paper.

## PHILADELPHIA OBSTETRICAL SOCIETY.

CASES OF NEGLECTED PUS TUBES—A CONTRIBUTION TO THE  
NATURAL HISTORY OF PUS IN THE PELVIS.

By CHARLES P. NOBLE, M. D., Philadelphia.

At the January meeting of the society I reported a case of pyosalpinx in which the disease had been permitted to run its course without interference on the part of a surgeon. As it is to be hoped that in the future such treatment will seldom if ever be pursued, it is of interest to put the case on record for its historical value. This patient had had evidences of serious pelvic inflammation for about five years—the source of the trouble being a septic labor many years before. The trouble had culminated in pyosalpinx, and an immense pelvic abscess, which was allowed to develop, and finally to discharge without interference—the discharge taking place above Poupart's ligament. This confined her to bed nearly two years. She improved, only to have a recurrence of the same trouble on the opposite side. At this time I saw her, and found her an emaciated wreck, pus poisoned, with bowels and stomach refusing everything. I was called to see if I could suggest something to settle her rebellious stomach. At this time the idea of operating had not been suggested by the medical attendant. Yet an immense abscess existed, filling the lower right quarter of the abdomen, and burrowing down the thigh.

The patient was evidently at death's door, making it out of the question to propose more than a simple incision to evacuate the pus. This advice was not accepted, whether because the family had resigned themselves to her death or because of the opposition of the attendant I do not know. Probably it made little difference, as the emaciation was so extreme that it is unreasonable to suppose that she could have recuperated. Under the circumstances it probably was fortunate that incision was refused, as otherwise it would have received the blame of her death. Moreover, we have a case of pus tube pursuing its natural course to death. It is the habit of those who oppose pelvic surgery to say that pyosalpinx tends to a natural cure—and many of them maintain that they have never known a death from peritonitis or salpingitis. Those of us who have had some experience are convinced that the memories of these gentlemen are at fault. And I take great pleasure in recording this undoubted case of death from a neglected pus tube. This poor woman was an invalid many years, and a bedridden wreck for more than two years, and finally met her death because these pus tubes were permitted

to remain in her pelvis. This, to me, seems almost unpardonable, as by a prompt section not only her life but her years of suffering could have been saved.

Last summer, in one of the distant mountain counties of this State, I saw two cases which still further illustrate the natural history of pyosalpinx. One was a poor woman, the wife of a miner, who had arrived near the period of the menopause without conceiving. This indicates tubal trouble, especially as there was a history of obstinate dysmenorrhœa. At this time she unfortunately met a man having little surgical judgment, who operated on her to cure her dysmenorrhœa and sterility by dilating the cervix. This resulted in a violent pelvic peritonitis and pus formation, presumably in the tube. Whether the trouble was due to operating in the presence of an old peritonitis and tubal trouble, or to setting up inflammation by faulty asepsis, matters not. It was certainly bad judgment to operate on a woman of her age with the idea of curing sterility, and bad surgery to set up inflammation either by poor selection of the case or by poor asepsis. The abscess burst into the bowel, and this poor woman was reduced to the last extremity of pain and exhaustion by the inflammation and suppuration which followed. The pus drained away through the bowels at irregular intervals, causing great suffering and marked hectic. This woman was recommended to have the pus sac removed, which, however, she has not done, being deterred by the distance she would have to travel, by the guarded prognosis which must be given in such a case, and probably by her former sad experience with surgery or rather with its abuse.

The other case was the wife of a gentleman of wealth. She had had some trifling pelvic complaint, said to be cervical catarrh. For this she consulted a Philadelphia gynecologist, who introduced a sponge tent, or rather a series of them, and caused a violent salpingo-peritonitis. After this she was treated many weeks for what was called typhoid fever by an assistant of the gynecologist. Despairing of her recovery, her husband took her home to die. Arrived there, after more weeks of suffering, the trouble manifested its true character by the discharge of an abscess through the vagina. The sponge tent had done in this case what it has done in so many others—caused salpingitis and pyosalpinx. The country doctors had already doubted their city brother's diagnosis, and now they wondered if it was intended to cover over bad surgery. The patient fell into good hands in the country. Her physician wisely refrained from radical interference in her exhausted state; but he dilated the sinus sufficiently to introduce a catheter, and to wash out the cavity. Under this treatment

she very slowly but surely improved. I saw her after she had been an invalid two years, and she told me how happy she was that she could walk across the room with a little help—yet this woman had been known the county over for her daring feats of horsemanship scarcely two years before. When I examined her there were no well-defined masses to be felt in the pelvis—hence I concluded the pus sac had emptied itself, especially as all hectic symptoms had been in abeyance for some time. I advised a continuance of the tonic treatment in use, and operation only if hectic symptoms reappeared, or pelvic pain from adhesions proved annoying.

These cases point several morals. I report them, however, because of their bearing on the natural history of pyosalpinx. In one case the result was death after years of great suffering. In the second case the woman has been brought to the brink of the grave, and it is more than doubtful whether she will escape death. In the third case a woman noted for her physique, spirit, and daring, is brought to the pitiable state of rejoicing in her ability to take a step with assistance and that after two years of weary suffering. These cases seen recently are but types of many I have met, and how men of experience can deny the very serious and even fatal character of pyosalpinx, when not subjected to early removal by cœliotomy, is beyond my powers of comprehension.

In connection with the report of the fatal cases of neglected pelvic abscess, I wish to read a letter from Dr. Charles Hermon Thomas, who attended the lady in 1882. The letter is of interest as showing the fact that tubo-ovarian diseases were overlooked at that time. As we all know, Dr. Thomas was a most intelligent practitioner of the gynæcology of that date, but when the relation of tubo-ovarian disease to the disease of women became known, and it became necessary for a gynæcologist to be an abdominal surgeon, Dr. Thomas gave up his gynæcological practice, confining himself to the diseases of the eye. There is no doubt that at the time he attended her she had tubo-ovarian disease. I regret very much that Dr. Thomas is unable to be present to-night.

“Dear Dr. Noble—Mrs. J. came under my care in 1882. Symptoms at the time chiefly neurotic. She had distinct hystero-epilepsy as made out by Dr. Mills, who saw her with me at that time.”

Examination revealed a moderately soft tumor, of the size of an egg, in contact with the posterior vaginal wall on the right side of the median line, and midway between the cervix and the vaginal outlet.

There was considerable tenderness of the tumor on pressure, but no local pain.



Patient chiefly concerned about a slight leucorrhœa of intra-uterine origin, and for which for short periods, during two or three years, topical applications were made. A neurasthenic condition was always present. The tumor, which was said to have been present for some years before I saw her, did not change in its size or other characteristics while under observation.

CERTAIN ASPECTS OF PUERPERAL SEPTICÆMIA, WITH THE REPORT OF A CASE OF ACUTE PUERPERAL CELLULITIS.

By CHARLES P. NOBLE, M. D., Philadelphia.

It is not my purpose to-night to take up the general subject of puerperal septicæmia, but to refer briefly to certain aspects of the subject. With the more general recognition of the truth of the modern doctrines of pelvic inflammation, that it originates as an endometritis, or as vaginitis, and spreads through the tubes to the peritoneum, causing salpingitis and peritonitis, in certain quarters an extreme view of the subject came to be maintained, and it was held that pelvic inflammation exists only as diseased uterine appendages and peritonitis. While maintaining as strongly as any one that the seat of pelvic inflammation in the immense majority of cases is in the tubes, ovaries or peritoneum, especially in non-*puerperal* cases, I have felt called upon to protest against the false position taken by some of denying the occurrence of inflammation of the pelvic cellular tissue. I have reported cases to this society in which the diagnosis of *acute pelvic cellulitis* was substantiated by exploratory abdominal section. I have not met with pelvic cellulitis except in the *puerperal* state, and as an acute inflammation ending in resolution or abscess. A recent example of *acute puerperal cellulitis* having come under my care, I shall make it the basis of a few remarks on the management of certain cases of *puerperal sepsis*.

Mrs. G., aged 30 years, II-para, was delivered January 18 of a living child, after a normal labor. The placenta was delivered by introducing the hand into the uterus. The following day the temperature was 104 deg. F., and marked tympany and pain were present. No improvement having occurred, on the night of the 20th I was called to see her. The temperature was 103 deg. F., the pulse 110, the abdomen was tympanitic, and there was much tenderness over the right ovary, which region had been the seat of severe pain. As the bowels had not been moved for four or five days, and as there had been persistent constipation during pregnancy, I felt hopeful that a good purge would clear up the difficulty, especially as the very rapid onset of the bad symptoms after the labor was

sufficient to make one wary in making a diagnosis of ordinary infection. The bowels were well moved, but without improvement in the symptoms. In spite of quinine, strychnia and digitalis, and vaginal and intra-uterine antiseptic douches, the case failed to improve, and indeed grew worse. As the lochia had never been foul, and as the douches had failed to bring away debris, I felt that it was useless in this case to use the curette. Dr. Goodell was called and agreed in this opinion. At the end of a week the right broad ligament became infiltrated with exudate, which extended between the cervix and bladder, pushing the cervix back into the hollow of the sacrum. The mass of exudate was distinctly palpable from above, plainly beginning at the border of the uterus. It was very clear that the mass was in the broad ligament, and not intra-peritoneal, on account of its relations, and this was made positive a week later when it rapidly disappeared, enabling the examiner to map out the slightly enlarged and lightly adherent tube and ovary. I shall not enlarge on the subsequent history of the case. Mrs. G. is making a gradual recovery. The convalescence was much retarded by an attack of nephritis, supposedly of septic origin.

The attack of nephritis caused a rise of temperature during the third week. At this time Dr. Parish saw the case. Whether the rise of temperature was due to an embolic nephritis or to an ascending inflammation traveling up the ureter is uncertain. The urine contained a large amount of albumen, much mucus and blood, and a few epithelial casts.

The question of how to manage a case of puerperal sepsis after the inflammation has extended to the tubes, or to the broad ligaments, is a most important one. The time has gone by when it is useful or advisable to use intra-uterine douches, or the curette—the disease is beyond the reach of these agents. We must trust to nature, assisted by our remedies, to bring about resolution, or in case of pus formations must resort to operation. Much depends on whether the secondary inflammation is in the tubes and peritoneum or in the broad ligament. In the one case the pus can be evacuated advantageously through the vagina or over the groin; in the other a celiotomy is imperative; and again early operation is much more imperative in case of intra-peritoneal abscess than in case of broad ligament abscess. Therefore, I believe it is important not to lose sight of the occurrence of acute puerperal cellulitis and abscess, even though their occurrence is rare as compared with intra-peritoneal inflammation, due to salpingitis or to ovaritis.

## DISCUSSION.

Dr. Joseph Price—I scarcely like to see cases of this character go on the record of the Philadelphia Obstetrical Society without a few remarks. While I may rank as one of those alluded to in the paper as holding ultra views upon this subject, I must very frankly state that there is surely not sufficient data in this report to convince us that this was a case of that myth, cellulitis. I have seen too many of these cases and studied them too carefully to accept this view. Through the last ten years I have sought for this condition and failed to find it. For instance, in the puerperal cases operated on in the last six months, I have examined with my friends, men of large experience and good judgment, we have discussed this subject at the bedside, and the suggestion has been made that the mass was an exudate, and I have replied: “We shall see to-morrow.” Out of a large number of operations in cases of this character, a mass on one or both sides of a so-called exudate, there is not an operator who has not found such a mass to be a diseased tube or ovary, or a small dermoid behaving badly. I do not know of a single operator, at home or abroad, who has ever opened the abdomen for a mass of this character and has failed to find a diseased tube or ovary. I see flimsy reports of these cases, and I see such cases constantly. I know perfectly well that we have forms of puerperal sepsis that kill quickly, the lymph spaces are open, and the patients are poisoned and die rapidly, and in these cases we always fail to find objective signs. In every case where we find objective signs of this nature (a mass on one side or both), we find disease of the tube or ovary. I cling to my position purely from clinical experience, rejecting theory and ancient literature. With our more precise knowledge, with a strong array of clinical facts, we have logical grounds of protest against such flimsy evidence of the existence of cellulitis. Harm comes of it. I insist that these are cases of tubal or ovarian disease. The woman is not safe, and the mass will yet have to be removed before she recovers.

A short time ago I saw in consultation, in a neighboring city, a lovely woman—a physician’s wife. Eighteen months ago she had been treated for typhoid fever. This was followed by a so-called “tedious convalescence.” She was treated by four of the most prominent physicians in that city. Number two treated her for sepsis, renal in origin, due to pyelo-nephritis. Number three treated her for general tuberculosis. Number four really recognized angry and advanced pelvic disease, and she was dying when I saw her. At the post mortem about everything in the pelvis, bladder, ureters,

small and large bowel, was found disorganized, the pelvis being simply a basin of pus. This is the second case that I have recently seen in a physician's family, and both have died.

I could discuss at length these neglected cases. I see a large number of them. I have in bed now two patients treated for typhoid fever. They were treated by men of rather large experience who ought to know better. If these physicians will confine themselves to their own clinical experience, if they will be convinced that we are honest and truthful about our work, they will cease to do as they do. In two of these cases I saw the patients in consultation. A and B agreed to operation, but C and D objected. The patients were allowed to go on suffering. One was a puerperal case. Two months later the husband and sister of one of these and the mother of the other entreated me to take these two patients. I simply sent C and D my compliments, and requested them to take care of their own patients. They begged and entreated me, and I did see one of them the next day. She is now in the hospital and getting well, in spite of all this, and notwithstanding I did an extensive stitching of the bowel. There was an abscess of the ovary and an abscess of the tube pointing at Poupart's ligament.

Dr. M. Price—I want to call attention to another doctor's wife with an exudate, and two of the ablest and most prominent men in this city found the exudate and said that she had puerperal peritonitis. She had five days' constipation of the bowels, and a few doses of salts cleared the whole thing away. It is pretty hard to say whether or not there is an exudate in the pelvis where there is a large uterus which has just emptied itself. You are guided more by the pain and tenderness. In all my life, when I have found anything that was palpable to my finger, that I could lay my hand on and say, "There is disease," on opening the abdomen I have found that there was present just what had been said—a diseased tube or ovary. In all my abdominal work I have never seen a drop of blood or pus in the folds of the broad ligament, and I have seen pretty well on to three thousand operations, and I am looking for this condition every day.

Dr. Edward P. Davis—The remarks that have been made bring up the practical point of the diagnosis of pelvic conditions in puerperal infection. I think that we shall do well to be careful in asserting the presence of disease in the pelvic organs after the puerperal condition unless we have examined the patient *after catharsis*, or better still, after catharsis and under an anæsthetic. When the condition is serious enough to call for radical intervention by the use of the intra-uterine curette, we shall do best for the patient if we are prepared to



treat the case in a most thorough manner. If the temperature fails to drop under catharsis and stimulation, we may prepare the patient for abdominal section. If, after purging, there still is evidence of trouble in the pelvis, we may proceed to open the abdomen, and whatever is there can be removed, and the case will be dealt with sufficiently promptly to insure recovery. If, after catharsis and cleansing the uterus, the fever continues beyond forty-eight hours, I feel warranted in making the most careful examination with the view of opening the abdomen if necessary. Rarely will one open the abdomen and find no occasion to remove anything. More frequently he will find conditions justifying the interference practised.

Dr. W. H. Link, of Indiana—Of course, I have not the same experience on these questions of cellulitis and abdominal surgery that a man practising in the city would have. I have probably had more experience with them in other ways. I, however, have had one experience that I call to mind, where I opened the abdomen of a patient who was septic after an accidental abortion, and in whom these masses on both sides of the uterus could be felt and on one side very distinctly. When I opened the abdomen the mass proved to be an ovarian abscess, and a tube distended with pus, and, if I were not mistaken, there was a collection of pus in Douglas' cul de sac roofed over by bowel. The patient was pretty far gone in sepsis and I was only stimulated to resort to surgery by what I had read in the discussions of this Philadelphia Obstetrical Society. I did not save the patient. She lived five or six weeks after operation, and I have never been able to entirely satisfy myself whether the death was due to operation or due to the previous septic condition. There may possibly have been a deficiency in my technique. I have thought that it was a mistake to have operated on a patient so far advanced in sepsis. Yet I do not regret that I operated, for it taught me a lesson in regard to this cellulitis; for if it consists in such a mass as I found, the application of hot water or of carbolic acid and iodine would not give any relief. It also encouraged me in an earlier resort to operation in other cases, and I think that if I did not save life then I shall be able to do so some future time.

In the rural districts our opportunities of observing patients in these conditions of disease, where the affection has been allowed to run a natural course, are more frequent than are yours. It is only within a short period that those in country districts have had the knowledge or courage to operate for the relief of these conditions. We studied these cases as we had been taught to study them at the medical colleges and as students are still taught at nine-tenths of the medical col-

leges. The professor inserted a Ferguson speculum and the class passed by and peeped in, or some teacher more advanced allowed the student to examine, but he was taught to feel for nothing but the cervix, or at most for exudates identified by the so-called name of cellulitis. The majority of the doctors who, nine or ten years ago, went out from the medical colleges of the West and South, and from many of the schools of the East, had just such ideas of pathology. They had been taught to look no higher than the vaginal vault for these troubles, and to soften and cause the absorption of these masses by hot water, and to relieve the pain by opium. They have been since pursuing the investigation of these diseases in the way that they were taught. It is that fact which brings me and my friends to Philadelphia. For that method of investigation and treatment has proved so unsatisfactory in our hands that we have put aside our patients and come here to see if we can not investigate these troubles from above. Since I have been in Philadelphia, some nine weeks, I have had the pleasure and profit of looking into at least one hundred abdomens for this cellulitis and various other troubles, and in a large number of cases have seen it taken out and put into a basin, and in every case the cellulitis has resolved itself into pus tubes or ovarian abscesses; and what could not be taken out consisted of agglutinated bowels, twisted and adherent omentum and similiar things. I have confined my observation not to the work of one, but of several abdominal surgeons, and I have failed to see any of them take out anything that could prove to me that cellulitis existed. I have studied this matter both from above and below, and I have seen surgeons of this and other cities remove this cellulitis and permit me to examine it, and none of them have been able to show me an exudate in the pelvis except that binding the omentum, bowels, uterus and tubes together.

Dr. J. M. Baldy—I should like to add my voice to what has been already said. I feel that I am one of the radical school referred to by the reader of the paper. I can only say that when I came out of college I came out with the exact ideas to which Dr. Link has referred. It took me a good many years to get over them, but I can say that to-day I am more radical than I ever was before. I have never seen a case where the abdomen was opened and the disease removed so that one could observe it where there was any cellulitis independent of disease of the ovary and tube, and there has never been such a case demonstrated by any one else to the satisfaction of those of us who do not believe that it exists.

The reader of the paper states that in his case there is an enlarged adherent tube and ovary. It is a pure and simple

case of salpingitis, peritonitis and exudation of lymph into the peritoneal cavity, and will disappear when the fingers go down and bring up the focus of disease—the tube and ovary. I have seen tubes and ovaries removed where the mass was almost as large as the fist, and in which the tube and ovary were very small. The bulk of the mass has been made up by adherent omentum and intestine and lymph filling up the spaces, and when the mesosalpinx has been brought up it was so thin that it could be seen through, the supposed cellulitis having entirely disappeared. In some cases there are inflammatory deposits into the cellular tissue between the layers of the broad ligament, but it is purely secondary, and due to the primary disease in the tube and ovary. To-day I stand more radically than I have ever stood on this subject. The more I hear of these cases the more I am satisfied that there has been faulty observation.

There is not one of them who has taken us to the bedside and shown us this condition. The cases which I have seen which were said to be cellulitis independent of tubal and ovarian disease have proven to be ordinary pelvic inflammatory troubles of the tubes and ovaries.

Dr. Charles P. Noble—I should like to correct the statement that I said that there was a big tube and ovary on the right side. I did not say so.

Dr. George M. Boyd—It seems to me that in the discussion of Dr. Noble's paper the various debaters have not been mindful of the fact that this trouble followed the puerperal state. It is believed by all present that cellulitis is remarkably rare, and that in the majority of instances the inflammatory trouble in the pelvis is tubal or ovarian. Can we not in exceptional instances have cellulitis in the puerperal woman? When we consider the amount of vaginal and cervical laceration and injury to the interior of the body or the uterus, it would seem possible that we could have occasional cases of cellulitis—infection of the cellular tissue and no trouble in the abdomen. That these cases are not demonstrated is probably due to the fact that they do not go on to need operative interference. They improve under treatment, and you can not demonstrate the existence of the trouble, because operative interference is not called for.

Dr. J. M. Baldy—There is no question, from the wording of Dr. Noble's paper, that there is a diseased tube and ovary. A healthy tube and ovary is not enlarged and is not adherent, even slightly. I would venture to say that I would operate on that case and demonstrate that disease was still present in the abdominal cavity, and that adhesions were there if they had been present before, and that the supposed cellulitis was all in the imagination.

Dr. G. Betton Massey—I did not hear the paper, but I heard the remarks of the last two gentlemen. There is only one thing that I wish to refer to, and that is the fact that I notice that neither of these speakers alluded to inflammatory troubles in the uterus. They refer to inflammatory troubles in the tubes and ovaries. I draw attention to this fact because I think that it is the prevalent attitude of too many. The primary seat of the trouble is often in the uterus.

The Chairman—The discussion was on intra-pelvic inflammation.

Dr. Massey—Well, the uterus is in the pelvis. It is not only the original seat of catarrhal disease, but, in my opinion, it remains the most important seat in many cases of intra-pelvic inflammation.

Dr. H. A. Slocum—I should like, in a very few words, to report a case which clearly illustrates that pus may occur in the broad ligament, where tube and ovary are not at all affected. Within a very few minutes after the delivery of the first of twins there developed a tremendous blood tumor of the right labium. It was difficult for the attendant to get his hand, or even one finger, in the vagina. He asked me to see the patient. After a little trouble I succeeded in introducing my hand into the vagina and uterus and delivered a child that was jammed and had been jammed for twelve hours. I noted at the time a small slit in the left side of the vagina. In the course of a few days the hæmatocele of the right labium sloughed and I could pass my finger and the injecting tube back to the base of the broad ligament. It had dissected the vaginal wall off from the contiguous tissues on the right side. The temperature had gone up during the septic processes in the blood clot, but it went down when the cavity was cleaned. Within forty-eight or seventy-two hours the temperature began to rise. I saw her again and made a careful examination, and found what might be called an exudate or a decided enlargement to the left of the uterus deep down below the level of the cervix and extending back nearly to the posterior wall of the pelvis. Bearing in mind the tear in the left side of the vaginal wall, and the mass being so low down, I concluded that this was a broad ligament abscess, and advised immediate operation. This was refused until she was nearly dying, three or four days afterward, when another physician was called in to do the operation, and found what I expected. There was no disease of the left tube or ovary, and an abscess of the left broad ligament was opened and emptied of its heavily fetid pus. The surgeon's finger, while gently exploring the floor of the wound, suddenly pushed through into the vagina, indicating corroboratively the source of the broad ligament infection.



Dr. Joseph Price—This discussion has rather pleased me, because it has been an exceptionally clean one, and tallies beautifully with my clinical experience. I am sorry so ancient a subject should be presented for discussion. It had been forgotten by most of us. I have sufficient confidence in Dr. Noble's diagnostic ability to be willing to operate on this case without examining her, and remove the worthless diseased tube and ovary on one side. Sir James Y. Simpson prefaced his first article by reports of two post-mortems made by two Irishmen, one under the head of puerperal pyosalpinx and the other as puerperal something else. They both found pus in the tubes and ovaries. It is curious that so great an authority and so careful an observer should then have gone on talking about pelvic phlegmon with the knowledge of these two observations, aside from those of Bernutz.

In criminal abortion it is rare to find the patient dying from cellulitis purely. I questioned Dr. Formad on this subject closely, and he said that he found tubal and ovarian disease in about all the cases. Dr. Formad told me plainly that he never found so-called exudate in the broad ligament. I also inquired in regard to blood in the broad ligament. He never found blood between the leaflets of peritoneum forming the broad ligament. I rise simply because I see that the discussion is going to turn on the puerperal cases, and with the object of hedging. I would say, to fortify the discussion all round, that my post-puerperal experience has been large. I have done a large number of sections for puerperal fever, so-called. I have been called in consultation in regard to at least one hundred women dying of puerperal trouble. This summer in one month I admitted six cases of puerperal fever into my hospitals and saved three and lost three. I hesitate to take these cases, because they are dying, and demoralize the nurses, the other patients and everybody in the house. If you can save three in six, or one in ten, you are doing good work. When I went on duty in the Retreat I found a patient dying. I took her out of the building and removed huge pus tubes. Recently a patient at the Retreat had a chill twenty-one days after delivery. Up to the twelfth day the temperature had not been above 98.6 degrees. The child had no ophthalmia. On the twenty-first day the patient developed an acute pyosalpinx, and I operated and saved her. There was an exudate on both sides. She had all the cellulitis that I have ever read of or heard talked about. She had a nice recovery. I see a good number of women dying of puerperal fever without the slightest evidence of mischief in the region of either tube or ovary.

I know perfectly well that it is not necessary for these patients to have cellulitis, salpingitis or peritonitis. We have a

huge placental wound, and often injury to the cervix and other parts. The lymph spaces are open, and sepsis or pyæmia takes place through these wounds. These patients die rapidly, and in few only will you accomplish anything by surgery. Surgery is of service only in that class of cases where there are marked abdominal or intra-peritoneal symptoms both objective and subjective. Take a large abdomen, enormously distended and extremely painful, and you will find, on opening, a quantity of lymph and muddy fluid. Some of these cases can be saved by irrigation and drainage. I would advise you to keep your hands off of the tubes and ovaries. If necessary later, when you have a good subject to operate on, you may remove the diseased tubes and ovaries. I am not talking about a tube as large as your finger; I am talking about general peritonitis. You may fancy that the trouble is in the tube and ovary. It may be, but if you remove the tubes and ovaries you will, in a large majority of these desperate cases, lose the patient. It is shocking the number of patients dying of post-*puerperal* trouble. It is as bad now as it was years ago. The results are quite as bad in private practice. In public institutions they are better. The lowest mortality is attained in the public institutions that a few years ago they talked about abolishing.

Dr. Charles P. Noble—I am glad that my paper has attracted so much interest. A few months ago I thought that it would be unnecessary to say any more about this subject, as at that time even Dr. Price admitted that he had seen cases of *puerperal* cellulitis. To-night he refers to it briefly in connection with criminal abortion.

With reference to the proof that *puerperal* cellulitis exists, I have reported to this society five cases of *puerperal* cellulitis and abscess. In four of the cases the pus was in the broad ligaments, and in the fifth case it was in the false pelvis and pointed in the loin. The report of four of these cases can be found in the *Medical News* of August 29, 1891, and the fifth case in the *Annals of Gynæcology and Pediatrics*, January, 1893. In four cases before the abscess was evacuated the abdomen was opened, and in three of them the uterine appendages were examined and found free from disease. The broad ligament was found distended with pus, a second incision was made above Poupart's ligament, the abscess opened and evacuated. In the fourth case the right lower quarter of the abdomen was a mass of adherent viscera. The left tube and ovary were slightly adherent, evidently because the peritonitis had spread from the right side of the pelvis. Owing to the extremely bad condition of the patient, it was deemed wise to close the abdominal

wound and to search for pus by an incision made directly over the broad ligament, which opened into the abscess. About a year and a half afterward I operated upon this patient for the cure of a ventral hernia, and found both uterine appendages entirely healthy and free from adhesions, the right *broad ligament* being somewhat shrunken. Curiously, but two points of adhesion existed in the abdomen—one between the omentum and the hernial sac, and the other between the omentum and the right broad ligament. In the fifth case (*Medical News*), a large abscess existed in the false pelvis and lumbar region. I saw the woman two months after the performance of a criminal abortion. The true pelvis was free from exudate, the broad ligament being normally soft and movable. The abscess was evacuated by an incision made in the loin. It was due almost surely to the breaking down of an infected pelvic gland. This case is the only one of the five in which the proof was not absolute that the abscess was extra-peritoneal, and the evidence in it was satisfactory.

Cases have been reported to this society by Drs. Parish and Longaker, and one of the five cases reported by myself was seen by Dr. Langrehr. Dr. Baldy has stated that no evidence has been presented to this society to convince him that such a thing as a true pelvic abscess exists. Leaving myself out of consideration, the society has the testimony of the gentlemen already named. I believe there are but few men who would be willing to put themselves in the position of impugning either the veracity or the intelligence of those gentlemen. Either they do not speak the truth, or else the society has had evidence of the existence of the condition; and if this were not enough, Dr. Slocum has reported an additional case this evening. It would be a most remarkable thing if the vagina could be torn, or the cervix torn into the base of the broad ligaments, during labor, and infection take place, and inflammation not follow. Inflammation results under such circumstances in every part of the body.

It is to be regretted that most of those taking part in the discussion utterly failed to discuss my paper, which was upon "Puerperal Cellulitis." I distinctly stated that I had never seen cellulitis except in puerperal cases. The discussion has been largely upon the old theory that what we now know to be diseased uterine appendages was chronic cellulitis. As this theory has been shown to be false by modern abdominal surgeons, it is a pure waste of breath to discuss it further. Chronic periuterine inflammation has been definitely proven to be diseased uterine appendages with peritonitis. The word *cellulitis* appears to have the same effect upon some of our

members as a red rag upon a mad bull. Their excitement becomes such that they utterly fail to perceive the subject in hand. I beg to offer that the entire discussion concerning the old theory of chronic cellulitis has nothing whatever to do with the paper of to-night.

With reference to the case reported this evening, the diagnosis depends upon the following facts: I examined a patient on the second day, and there was no exudate; again on the fourth day, and there was no exudate. On the seventh day the exudate was plainly perceived between the vagina and bladder, pushing the cervix back into the hollow of the sacrum, five inches from the vaginal outlet. The exudate could be felt as a distinct mass in front of the cervix, extending outward to the pelvic wall, and it could be clearly outlined above Poupert's ligament and traced outward from the border of the uterus. After being present five days it disappeared very rapidly, and one could feel the lightly adherent tube and ovary scarcely if at all enlarged. Dr. Price has made mention of his high estimation of my skill in diagnosis, hence I may venture to submit that my opinion of the location of the exudate is of more value than his, in view of the fact that I examined the case and he did not.

I am glad that I reported this case, for it is evident that some of our members require more light. The failure to recognize that in puerperal cases an inflammatory mass in the pelvis does not always mean diseased uterine appendage is at the bottom of a certain number of bad prognoses. Even in puerperal cases there is no doubt that inflammation generally spreads from the uterus through the tubes to the peritoneum. But in not a few cases peritonitis is set up either by the direct spread of the inflammation through the uterus to the peritoneum covering it, or through the lymphatics and broad ligaments to the peritoneum covering the broad ligaments. This is the explanation of why a certain number of cases of well-marked puerperal peritonitis entirely recover, with normal uterine appendages, and why not infrequently such women subsequently become pregnant. I have reported one case to the society (December, 1892), in which I did the exploratory celiotomy, and found the entire contents of the lower right quarter of the abdomen adherent, and in which the left tube and ovary were slightly adherent. I evacuated pus from the right broad ligament in this case. She recovered nicely but developed hernia. About eighteen months later I operated on her, and found that the adhesion had been entirely absorbed with the exception of the points of adhesion between the omentum and the hernial sac, and between the omentum and the



right broad ligament. Both ovaries and tubes were found to be perfectly healthy. That woman is now five months pregnant.

This case is certainly an extreme one. No one would have believed that she could ever have become pregnant, because it seemed certain that such an extensive peritonitis would permanently seal up the fimbriated extremities of the Fallopian tubes. It shows that it is quite possible to make a mistake even upon apparently good evidence. One certainly risks being mistaken when he is absolutely "cock-sure" of his position, as some of the speakers appear to be.

I wish to say a word concerning Dr. Link's arraignment of our teachers. What he said was true in a general way of the teachers of twenty years ago, but certainly it is not true of most of them to-day. He certainly makes use of loose language when he attributes such teachings, for example, to Drs. Goodell, Montgomery, Parvin, Kelly, Polk, etc. These gentlemen teach just as good gynecology as anybody, and know as much gynecological pathology as any one who is not a professor. To make the statement that the majority of the professors teach doctrines which have been antiquated since the days when we were students is to make a statement without thinking what it carries with it.

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PROCEEDINGS OF THE ATTAKAPAS MEDICAL SOCIETY AT  
NEW IBERIA, LA., MAY 2, 1893.

The annual meeting of the Attakapas Medical Society was called to order by Dr. F. J. Mayer, president, in the Opera House.

The members present were: Dr. F. J. Mayer, president; Dr. J. P. Francez, vice president; Dr. L. A. Burgess, secretary and treasurer; Drs. W. W. Lessley, F. R. Folsom, F. G. Mouton, L. B. Arceneaux, H. A. King, J. W. K. Shaw, Geo. Sabatier, G. A. Shaw and M. B. Tarleton.

After the reading of the minutes of the previous meeting the election of officers for the coming year took place, with the following result: Dr. J. D. Trahan, president; Dr. G. W. K. Shaw, vice president; Dr. M. B. Tarleton, secretary and treasurer.

Upon a motion, duly seconded, the society formed itself into a committee to take action in the case of "The Association vs. Drs. F. W. Courtney and Ursin Préjean," which has been pending for some time. After a thorough examination of all charges preferred against the said Drs. Courtney and Préjean, a verdict of guilty was declared and the said members were expelled from the association.

The application of Dr. Artaud was submitted to the association and, by a unanimous vote, he was declared a member of the association.

The president, Dr. J. D. Trahan, appointed Dr. W. W. Lessley secretary of the committee of the whole, and thereupon action was taken in the case of "The Association *vs.* Dr. G. W. Martin," against whom charges were preferred by members present. The resignation of the aforesaid Dr. G. W. Martin was then read by the secretary, but, on account of the pending charges, was held over.

Dr. Trahan then read a lengthy and able paper on "Post-partum Hæmorrhage," after which discussions were participated in by different members. Dr. J. P. Francez read a paper entitled "A Cause of Sneezing." The above papers and proceedings were ordered to be forwarded to the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL for publication.

Dr. G. Franklin Mouton was elected annual orator.

Upon motion it was decided that the fall meeting be held in Opelousas, on the first Tuesday in December, 1893.

M. B. TARLETON, M. D., *Secretary*.

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#### PROCEEDINGS OF THE AVOYELLES PARISH MEDICAL SOCIETY.

This society met at Mansura on May 4, 1893.

Present: Dr. C. J. Ducoté, president; Dr. A. Pierce, vice president; Dr. G. R. Fox, secretary; Dr. T. L. Tarleton, W. F. Courillion, Dr. L. G. Willie, Dr. Thos. A. Roy.

The term of officers having expired since the last meeting, and on motion of Dr. Courillion, the last incumbent president, Dr. Ducoté, was re-elected.

On motion of Dr. Tarleton, Dr. G. R. Fox was nominated and elected vice president.

On motion of Dr. Fox, Dr. Roy was nominated and elected secretary.

On motion of Dr. Roy, the following named applicants to membership were received: Dr. W. L. Wharton, Dr. D. S. Wier, Dr. Emil Régard, the last being an honorary member.

Dr. G. R. Fox read a paper entitled "Ovarian Cystoma Followed by Recovery."

The regular fee was paid over to the secretary, who is also treasurer, by the following: Dr. C. J. Ducoté, Dr. G. R. Fox, Dr. W. L. Wharton, Dr. John A. Holingshead, Dr. T. L. Tarleton, Dr. L. G. Willie, Dr. W. P. Buck, Dr. W. F. Courillion, Dr. Thos. A. Roy.

On motion of Dr. Willie, Drs. C. J. Ducoté and Thos. A. Roy were elected delegates to represent the Avoyelles Parish Medical Society at New Orleans, at which place the State Medical Society is to meet on the 9th inst.

On motion of Dr. Fox, Drs. W. G. Branch and Alanson Pierce elected alternates.

On motion of Dr. W. L. Wharton, the society adjourned to meet at Moreauville on the 6th of next July.

THOS. A. ROY, M. D., *Secretary*.

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#### AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The third annual meeting of the American Electro-Therapeutic Association will be held in Chicago, September 12, 13 and 14, at Apollo Hall, Central Music Hall Block.

Members of the medical profession interested in Electro-Therapeutics are cordially invited to attend.

AUGUSTIN H. GOELET, M. D.,  
*President*.

MARGARET A. CLEAVES, M. D.,  
*Secretary*.

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Pursuant to a call meeting of the physicians of the parishes of Bienville, Lincoln and Claiborne, they met in Arcadia on June 13, for the purpose of going into a permanent organization, to be known as the "Tri-Parish Medical Association."

The following officers were elected for the ensuing year: Dr. J. Atkinson, president, Arcadia; Dr. A. C. Simmons, first vice president, Lisbon; W. J. Pollard, second vice president, Gibbsland; A. Deseay, third vice president, Ruston; O. M. Patterson, recording secretary, Arcadia; S. A. Poole, corresponding secretary, Simsboro.

Next monthly meeting to convene in Arcadia July 6.

S. A. POOLE, *Cor. Sec.*

# N. O. Medical and Surgical Journal,

ESTABLISHED IN 1844.

PUBLISHED MONTHLY, \$2.00 A YEAR.

Articles from physicians are respectfully solicited. All articles, news and exchanges, and books for review, should be sent to the EDITOR, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL. Business communications should be addressed to the BUSINESS MANAGER, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

EDITED AND PUBLISHED BY

AUGUSTUS McSHANE, M. D

COLLABORATORS:

DR. F. W. PARHAM.

DR. H. W. BLANC.

DR. A. W. De ROALDES.

DR. R. MATAS.

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## Editorial Articles.

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### THE CARE OF OUR LEPERS.

Among the questions of public interest that might properly engage the attention of the medical profession of Louisiana, the JOURNAL suggested the care of our lepers as one urgently needing proper disposal. No set of men can be better qualified than intelligent physicians to suggest to our law-makers the steps necessary to be taken in order to stamp out this lingering pest. The State Medical Society met last May, but all of the society's spare time was taken up by other matters, and leprosy was overlooked.

Overlooking a matter, however, does not dispose of it satisfactorily. When a house is burning it will not do to overlook it; ignoring the fire will not put it out; and no more will overlooking leprosy convince ourselves or the outside world that we are doing our duty as intelligible, responsible agents. Leprosy is now an indigenous disease in Louisiana. There is a so-called leper hospital or pest house in the rear of this city to which lepers may go if they wish, or stay away if they wish—which latter they generally do.

The contractor (for the physician who runs this establish-



ment does such and such things under contract with the city) perhaps does all that his contract calls for. Not long ago he received a very large amount of attention from the grand jury and the press for the remarkable way in which he dealt with leprosy, which was, to say the least, quite original. Whatever blame is to be attached to this novel institution should be laid on the civil law-makers, and, indirectly, the medical profession of Louisiana—the former for their bungling methods, and the latter for their indifference to public health and non-action in the way of advising those who frame our laws.

Leprosy is a horrible reality for Louisiana. It is not a far-off, intangible spectre to shudder at; it is a foul stench in the nostrils of civilization that should be cleaned out. If the reader will consult the editorial pages of the JOURNAL for several years back he will find very clear statements of facts that go home to every one of us. Our people are brought in more intimate contact with leprosy than they are aware. We have passed it on our streets repeatedly; we have rubbed against it in theatres, and have even observed it in a public eating-house. Is that a proper state of affairs for a big city with dozens of intelligent physicians and thousands of public-spirited men? No well-informed person will deny that such a condition is intolerable; but between the recognition of a deplorable fact and the adoption of adequate measures there seems to be an impassable gulf. The apathy of our people is incomprehensible and even mortifying. The present leper-hospital is evidence of the fact that the people are beginning to appreciate the importance of checking the spread of the loathsome disease. But this awakening is rather sluggish, and it was in a measure due to the prodding of the contractor, who derives a pretty fair revenue from his bargain. Leaving out of consideration the degree of efficiency of the leper-hospital, we must still thank the contractor for having extensively advertised our pest, for having helped to fix public responsibility for the continuance of leprosy, and for having established a precedent for further and more comprehensive measures.

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The practical question now intrudes itself: What shall those comprehensive measures be?

Leprosy is not confined to Louisiana. Louisiana is too poor to do her duty. The people (and the profession) are callous or indifferent. Lepers should be forced to go to a secluded spot and remain there. The medical service (always distasteful) should be strict and efficient. Perfect discipline should prevail.

We know of no better means of stamping out leprosy in the United States than to make it a national question and put the lepers in charge of the Marine Hospital Service. As to the location, Uncle Sam has a great many islands in pleasant climates situated some distance from the mainland, where the lepers could be confined without fear of escape, and where they could enjoy what pleasures life still holds for them.

Members of the Marine Hospital Service, being under a discipline almost military, could be detailed from time to time to care for the unfortunates. The lepers from all parts of the country could there be gathered together, and in the course of a generation indigenous leprosy in the United States would be a thing of the past.

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Before leaving the subject, we would like to add a few words which, perhaps, may prove of more importance than all that has hitherto been written on the subject. We do not violate any confidence when we say that a prominent and conscientious dermatologist of this city says, in all earnestness, that he has actually cured—not merely arrested—leprosy in a well marked case. This gentleman's experience with leprosy has been very extensive. The drug he used is one of the cheapest in the pharmacopœia. In a short time we hope to give our readers his paper containing his views and observations. If his success should continue, then he will render pest houses and leper colonies unnecessary.

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#### DR. KEELEY AND HIS "CURE."

The following communication from Dr. Leslie E. Keeley, of anti-drunkenness fame, explains itself. In the interest of justice and fair play his communication is given the same prominence as the article that called it forth. As an

answer to his letter we beg to refer our readers to a copy of an article by Dr. B. D. Evans, that originally appeared in the *Medical News*, May 6, 1893, and published elsewhere in this issue. If Dr. Keeley's letter needs any more answer than that we shall be pleased to have any one inform us of the fact.

DWIGHT, ILLINOIS, June 20, 1893.

*To the Editor of the N. O. Medical and Surgical Journal:*

DEAR SIR—I noticed an editorial in your valuable journal for April, 1893, entitled "Keeley's Cure." I trust you will give me space for a brief reply.

I do not care to notice your sarcastic and undignified tone in this leading article, nor can I afford to reply to you in that style of rhetoric.

But your comments are misleading, and, whether through mistake or intention on your part, cut no figure; but the real facts relating to the "Keeley Cure" can do neither yourself, your journal, nor your readers any harm. Possibly it may result in general good.

You intimate that the remedy I use for inebriety is unknown to the public. The remedy I use is the chloride of gold and sodium, prepared in a stable solution. The formulæ of this and several other preparations I am said to use have been published by many fakirs in both medical journals and "groaning newspapers."

It is my opinion that no remedy ever used in any disease is so widely known by the people of the world as my gold remedy—the chloride of gold and sodium for inebriety. The newspapers have very likely performed their share in the diffusion of this knowledge; but studious doctors and editors of medical journals have also helped very materially through their efforts to demonstrate that there is no such chemical compound as the "bichloride of gold."

You are greatly mistaken when you say that I first called my remedy the "bichloride of gold." I never gave it that name. I sometimes named the chloride of gold and sodium the double chloride of gold.

The term bichloride was first used by a medical gentleman who was a patient of mine, and who, in organizing a club, used the title "bichloride," because such a title as the Double Chloride of Gold Club seemed a little difficult. I trust this explanation will relieve any error of mind or conscience or education that you have been subjected to on this question.

I have nowhere said that my system "contained no gold at all;" so the "wise ones" you refer to, who have based

conclusions or opinions on this allegation, are building on a sandy foundation. Other people say that my remedy is the bichloride of gold when there is no such drug, and other people say there is no gold in my remedy.

You next assume to entirely uncover my alleged secret, by the testimony of Dr. J. J. Brownson, of Dubuque, Iowa, who gives what he alleges is my "formula" as verified by analysis, and the statement that I use apomorphia to cause nausea of the patients while they are drinking whiskey. I have heard of this formula before. It has been published many times over in newspapers and journals. Neither this formula nor the apomorphia idea originated with myself or with Dr. Brownson. The idea was first suggested by a code-observing, regularly educated and highly accomplished fake in Chicago. This gentleman did not really originate the idea, however, but obtained it from a tradition handed down in his own family. I presume the tradition exists in many families, and, in its original form, it consisted in finding the hidden bottle of the inebriate and charging his whiskey with ipecacuanha.

I am sorry to say that this suggestion, quoted but not invented by Dr. Brownson, is about the extent of pathological knowledge possessed by the critics of the Keeley cure on the subject of inebriety and its treatment.

The formula, as quoted by you from Dr. Brownson, and quoted by Dr. Brownson from the newspapers, is not the remedy or the remedies I use, except the gold preparation. The alleged secret of success which you give is not the secret at all, as I have never used apomorphia in the treatment of inebriety. I am not gifted with the requisite degree of therapeutical cunning and astuteness to invent such a remarkable method. If this is the secret of my success, then why should not the profession use it and be content? What more can the medical profession ask than to be successful in the treatment of inebriety or of other diseases? If the medical profession really know my method, or system, or cure, or have the formula I use, and know the secret of my success, what more can the medical profession or the world ask for?

I have treated and cured ten thousand physicians of inebriety during the past sixteen years. I have treated and cured of the same disease one hundred thousand other persons. I have not "worked" the medical or lay press or the clergymen "skilfully" or "cunningly." The clergymen and newspapers have said what they pleased for and against my treatment, just as they generally do on every other subject. The medical press has done the same. It is true that I have brought some suits for libel against medical journals. I was



obliged to do so. It appears to me somewhat singular that medical gentlemen who have the many advantages of a knowledge of the decalogue, the general moral code of society, the special code of gentlemen, and also of a medical code of their own, should so far overstep decency and propriety as to violate the laws of their country when attempting to criticise a method of medical treatment for inebriety.

You state very truly that "Dr. Keeley has received a mountain of abuse from the medical press and his treatment yet lives. I congratulate you on the truthfulness of this statement. I have received the abuse, and the treatment of inebriety, by my method, has steadily grown in the meantime. It was never so prosperous and successful as it is to day. Why do you not suggest that the secret of my success has been in my skillful working of the medical press in order to secure its abuse?"

I have no objection, in closing, to giving you what I consider the secret of the success of the Keeley cure for inebriety. I studied the pathology of inebriety, regarding drunkenness as a disease, and experimented with remedies. I tried to find an antidote for the lesion of alcohol in the brain, which underlies the great symptom of inebriety, the craving for drink. I found a remedy for this condition. My success consists in the fact that I can destroy the appetite for drink in any inebriate, man, woman or child; and the only secret about the success is that I have "cured" 110,000 inebriates.

I never expected that such success would meet with the unqualified favor of all men. How could it? This world is filled with "human nature," and the simple fact of such phenomenal success would excite enmity. In fact, this is what excites the enmity of the critics.

It seems to me that this field is open to all men. It is scarcely worth while to pick up the threads I may drop by accident and attempt to start a rival method founded on pretended discoveries of my method. Certain critics have had the audacity to claim a knowledge of my formulary, which they publish, and then admit that the remedy will cure inebriety; but they (the critics) know how to use the remedy, and I do not. The cool, complacent impudence of such criticism exceeds anything I ever heard of before; nor would I have believed that men lived who could so shamefully stultify themselves.

The gold cure is no longer an experiment or a scientific question. It is a scientific verification. No criticism can harm it. No "abuse" of medical journals can injure it. Probably the sooner the medical journals recognize this fact, the better it will be for the journals.

Respectfully,

LESLIE E. KEELEY, M. D., LL. D.

We read with pleasure through the proceedings of the American Laryngological Association of the election at its last annual meeting in New York of Dr. A. W. De Roaldes as a fellow of this exclusive society. We shall be glad to publish at a future date his candidate thesis on "Alarming Cases of Epistaxis of Grippal Origin and Dangers of Post-nasal Plugging."

This election by a body of our foremost northern laryngologists is quite a compliment not only to the doctor but to the growing number of southern representatives of laryngology, and also a just recognition of the services rendered by Dr. A. W. de Roaldes to this branch of our profession in the South.

It is only a few months when the title of foreign corresponding member was conferred upon him by the French Society of Otology, Laryngology and Rhinology. We sincerely congratulate our confrère upon his double professional distinction.

Dr. A. W. de Roaldes will go in September to the Eleventh International Congress in Rome as one of the delegates of the American Laryngological Association, also as one of the representatives of the Louisiana State Medical Society.

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## Abstracts, Extracts and Annotations.

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### MEDICINE.

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#### KEELEYISM AND KEELEY METHODS, WITH SOME STATISTICS.

By B. D. EVANS, M. D., Medical Director of the New Jersey State Hospital at Morris Plains; Member of the Medico-Legal Society of New York, etc.

It is the purpose of this article to place before the medical profession some plain facts and statistics relative to the workings of the "Keeley Institutes," their methods and results made by persons who will not be affected whether its stocks go up or down, and whose object is the promulgation of truth and the fostering of the truest interests of medical science.

In the preparation of this paper I have used chiefly data collected by *The Medical News* and myself, and among the names of those who have favored us with replies to our inquiries will be found those of some of the most eminent medi-

cal men of this country, in the treatment of mental and nervous diseases and inebriety; hence a high estimate is to be placed upon their testimony.

We have to deal with the work and methods of a person who, according to the daily press, disregards medical ethics; who claims to have discovered a combination of drugs that will destroy the appetite for alcoholic stimulants, and, while he claims to have discovered a wonderful "cure," says he will not make known its composition; a man who has stepped aside from the traditions of his profession and forsaken the code that has made the medical profession one of the grandest organizations on earth; a man who has organized a stock company for vending his secret remedies; who has papers published exclusively in the interests of his company; who goes about preaching its virtues, calling upon the medical profession to pronounce his remedies sound, and the ministry to pronounce him a philanthropist. His papers accredit him with doing wonderful things, and the statistics given by his pen and the pens of his employés are very glowing.

Let us inquire into the nature of his remedies and the results of his drugging as seen by competent observers.

On the afternoon of March 30, I visited the Keeley Institute located at Orange, N. J., which has for its medical director, Allen Burdick, M. D., and W. R. Dabb as manager and treasurer.

The manager informed me that the treatment at this institution was identical with that of Dwight, and that the physician in charge knew nothing of the component parts of the medicine given to the patients—that only three persons in the world were in possession of that secret. The medicines were given in a mechanical way at regular intervals. He further stated that the course of treatment necessary for graduation was four weeks, and in that time the desire for alcoholic liquors was entirely obliterated, and the patient left the institution with no more desire for these stimulants than he had before he ever tasted them. I then asked: Suppose the patient had an inherited appetite for drink? He replied: "We Keeley people do not recognize an hereditary appetite, and consequently hold that the appetite for drink is thoroughly and effectually taken from the inebriate after his course of treatment here." I was then shown into the room in which the hypodermatic instruments were kept, and in which the patients said they came to get "shot" or be "jabbed." While sitting there, I noticed the man who made the fires and did the chores dealing out the "dope" to patients, and there came to my mind two thoughts: first that the injection was given in a

mechanical way by persons who admitted their ignorance of its composition; and second, that Dr. Keeley said in public: "It would be inexpedient to allow his remedies to fall into the hands of inexperienced physicians." I wondered how much intelligence and how much experience was necessary in order to become a Keeley physician. The reader must solve the problem for himself.

Four patients came in to be interviewed.

No. 1 was asked how long he had been under treatment and the effect the medicine had upon him. He replied: "Between two and three weeks, and the medicine makes me very sleepy and gives me a feeling of weakness and tiredness about the legs, confusion in the head, and upon trying to read, the letters all run together." I asked: "Are you allowed to drink?" He said: "Yes, but the liquor and medicine do not mix well, as after taking them I am always sick at my stomach." On being asked what he thought of the treatment, he said that at first he was very skeptical, but now had every confidence in it. He also added that he had frequently stopped drinking for six months at a time.

No. 2 corroborated the views and experience of his friend in misfortune, but added that while taking the medicines he was much annoyed by the appearance of a red rash.

No. 3 said he had been a graduate for some months, and now had not the slightest desire for liquor, and felt that he had perfect control over himself. He also said that he had, by force of will, stopped drinking for over a year at a time.

No. 4, who had been but eight days under treatment, said: "The medicine makes me feel very weak, shaky and unsteady. When I attempt to read the letters blur and run together."

On being asked how it affected his throat, he said: "It makes it mighty dry and for several days I have been spitting cotton." He further stated that "The first two days of treatment are a blank to me, as I was so much confused that I do not know what transpired, and I was perfectly sober when I came."

There was, indeed, a general agreement in the testimony of these four patients as to the following points:

1. That the medicine made them feel tired and interfered with their locomotion.

2. That it gave them a dry mouth and throat, and, to use the expression of No. 4, "made them spit cotton."

3. That it dilated the pupils, and they were unable to read without glasses.

4. That the medicine and whiskey did not mix well, and caused them to be sick at the stomach.



5. That they had all, since they had considered themselves confirmed drunkards, stopped drinking by force of will-power, from three to eighteen months at a time.

6. That the medicine apparently supplied the place of alcoholic stimulants.

7. That while under the influence of the drugs, they had great confusion of mind, loss of memory, and that hours and sometimes days passed which were blank to them.

8. That upon many of the patients a red rash appeared, generally after taking the medicine a day or two.

While considering the therapeutic aspect of this subject, it would be well to bear in mind Dr. Keeley's statement in Dr. Talmage's church, that his remedies were harmless and that a child might take them in barreland-doses without danger, and, noting the revelations of their analytic examination and the physiologic and toxic effects that follow their administration, decide both as to the value of his assertions and the character of his remedies.

It was originally claimed by the Keeley people that the principal remedy in the so-called cure was bichloride of gold, and Dr. Keeley allowed statements to that effect to go uncontradicted. Such a preparation being a chemical impossibility, this showed either a very limited knowledge of chemistry on his part or a decided inclination to speculate upon the ignorance of those not familiar with the fact, and an indication as to the sort of methods this trading medical concern was disposed to adopt.

Upon his attention being called to the fact that the auric salts are toxic, and the inconsistency of giving them in the barreland-doses he had intimated might be given to a child without harm, his secretary replied that "Dr. Keeley's superior knowledge of physio-chemistry enabled him to so compound his drugs as to get these results." Is it not strange that the medical and literary world has heard nothing about this venerable gentleman's work along this line? Prodiges of that sort rarely remain so long unheard of. Dr. A. W. Jackson, of Brooklyn, gave to the public, through the columns of the New York daily papers, his analysis of the red liquid used by the Keeley people, and Dr. Jackson had ample opportunity, as substitute physician to a Keeley Institute, to obtain the genuine preparations, and the profession has every right to credit his analysis, which is roughly as follows: Atropine, strychnine, caffeine, cocaine, and codeine; but it is not to be supposed that the solutions do not vary from time to time in some particulars, though the train of physiologic phenomena that almost uniformly follow their administration makes it practically certain that the change is not very radical.

Dr. Chauncey F. Chapman, in the *Chicago Medical Recorder* of February, 1893 (republished in *The Medical News* of March 4, 1893, p. 249), gives the following formulæ and vonches for their correctness.

1. The Tonic, or "Dope":  $\mathcal{R}$ . Aurii et sodii chlorid., gr. xii; strych. nitr., gr. j; atrop. sulph., gr.  $\frac{1}{4}$ ; ammon. muriat., gr. v.; aloin, gr. j; hydrastinin, gr. ij; glycerin,  $\mathfrak{z}$ j; ext. fl. cinchonæ comp.,  $\mathfrak{z}$ ij; ext. fl. coca erythrox.,  $\mathfrak{z}$ j; aq. dest.  $\mathfrak{z}$ j.

2. The "Shot," or Injection:  $\mathcal{R}$ . Strych. nitr., gr.  $9\frac{1}{10}$ ; aquæ dest.,  $\mathfrak{z}$ iv; potass. perman. q. s. to color.

In addition to these two, an injection of a solution of chloride of gold and sodium is used to impress the patient, his attention being called to its rich golden color. Then comes the trick, the hypodermatic injection of apomorphine, which is given either with or as a substitute for the "shot" while the patient is allowed to drink whiskey.

Dr. J. G. Elliott, of Mercer, Pa., states that the following drugs are to be found in the Keeley remedies: Strych. nitr., atropine, boric acid, ammon. chlor., aloin, tr. cinchonæ comp.

Dr. Norman Kerr, of London, says of the Keeley cure: "The fact is that this falsely called remedy is very dangerous and is compounded of a number of poisonous intoxicants."

Dr. J. E. Usher, of London, in his work, recently published, on *Alcoholism and its Treatment*, says the mixture known as the Dope contains ammon. mur., aloin, tr. cinchonæ comp.; and the hypodermatic injection, strych. nitr., atropine, boric acid and water. No auric salts are found in either. Dr. Usher goes on to say of Dr. Keeley: "He may claim commercial credit for the systematic and tactful way in which he has worked up his business, which is now in the hands of a trading company. His methods are very irregular and do not invite sympathy, but his knowledge of human nature has taught him to appeal to the psychic or imaginative side of man—that which creates doubt and involves mystery. Here we have a man who is without the pale of Æsculapian principles, and can not, therefore, be recognized." He concludes by saying: "There appears, however, sufficient evidence that the use of the so-called bichloride of gold cure is not devoid of danger and risk."

Dr. Jackson, who watched closely the effect of the Keeley preparation administered by himself, while substituting for a Keeley physician, declares that the condition produced by these drugs is worse than drunkenness.

Dr. Graeme Hammond says the remedies used by the Keeley people naturally lead to insanity.

That there are in this combination of drugs which compose the "Keeley secret formulæ," powerful stimulants, both to the circulatory apparatus and the respiratory organs, is very evident. That these powerful stimulants may in a large measure take the place of the alcohol from which the patient is to abstain, it is reasonable to suppose, but that their mechanical administration is fraught with great danger is an absolute certainty.

The symptoms that almost uniformly follow the administration of the Keeley remedies are identical with those attributed by all reliable authors to that class of drugs called by Dr. H. C. Wood, in his treatise on *Therapeutics*, Delirifacients, the prominent members of this family being belladonna, stramonium, hyoscyamus, duboisia, and their alkaloids. Added to these are the nitrate of strychnine and, upon the admission of Dr. Keeley himself, the salts of gold.

Can any man who has any knowledge of the action of these drugs pronounce them harmless and innocent? Yet Dr. Keeley stood in the shadow of the sanctuary and told an intelligent audience that they are so.

The injection familiarly known to the patients as the "shot" is made to answer two purposes. It is given at regular intervals, and consists of a solution of strychn. nitr., the value of which drug in the treatment of alcoholism has long been appreciated by the medical profession; but while the patient is taking alcoholic drinks, which he is allowed to do during his first week, apomorphine is substituted as an injection for the strychn. solution, or some other nauseant is given with it. Of course, the drink makes the victim very sick, and in view of the fact that he has had numerous injections that did not make him sick, he associates the drink of the alcoholic beverage with his nausea, and does not trace the nausea to the hypodermatic injection. He is told by the medical director of the institute that the "Keeley" medicine and alcohol are deadly enemies, and when they meet in his system severe sickness and nausea result. He tries his drink a second, a third, and a fourth time, with the same results, so that he begins to think of alcohol with disgust, and herein undoubtedly lies one of the principal secrets of the "Keeley treatment," and the manner in which the managers inspire their patients with confidence in them and their methods.

The combat between their remedies and alcohol, which they so graphically describe to the patient, and which is verified by his constant sickness while drinking, makes him believe that he is in the hands of a prophet or magician, and he is thereafter placidly subjected to the influences of the mechanic who "jabs" him or "shoots" him and gives him his "dope."

Dr. Keeley, in one of his pamphlets, writes a scathing criticism on the use of atropine in the treatment of the "opium habit," speaking of it as a "virulent poison." He appears to be not without motive, and to an inquiring mind that motive seems to be a desire to divert attention from the thought that he would use it, or any like drug, in his secret remedy.

He is quoted by a daily paper as saying that "when the medical profession accepts his cure as sound, and admits its efficacy," he will be more disposed to divulge the nature of his valuable formulæ; in other words, if physicians will, by their influence, pour into his coffers the wealth of their inebriate patients, and, furthermore, assist in advertising his stock concern, he will deliver over at death, or at his own time and in his own way, the barren legacy—the secret of his aurum potable.

In the accompanying tabular reports will be found some interesting data as to the sequences and consequences of the administration of the Keeley secret remedies.\*

We find in the table 88 cases of insanity following the "Keeley treatment," 83 of them reported by thirty-seven physicians. In about 75 per cent. hereditary predisposition to insanity is denied, and in about 90 per cent. there was no manifestation of mental obliquity, except a morbid appetite for alcohol previously to taking the "Keeley treatment."

A large number exhibited symptoms of insanity within a few days after being discharged from "Keeley Institutes" as "cured," and a few went almost directly from the "Institutes" to institutions for the insane.

There were 158 relapses which came under the care or observation of twenty-six physicians. A large proportion of these were in broken-down health, which they attribute and trace to the effects of drugs taken while at "Keeley Institutes." Of these relapses a goodly number suffered from nervous prostration and insomnia, which did not exist previously to their course of treatment.

A group of eighty-eight insane men is not a glowing testimonial to any system of treatment, whether it be systematic "jabbing" and "doping," or what not. And when these disastrous results follow so closely upon the drugging, and the testimony is so direct and pointed as to the cause, the duty of every physician who wishes to uphold the honor and dignity of his profession is plain.

The 158 relapses were only learned of incidentally, and were recorded with the more serious phases of the subject; yet when we consider the fact that this number comes from only

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\*This table has to be omitted on account of its length. The reader is referred to the *Medical News* for May 6, 1893.



twenty-six observers, it is fair to presume as to the magnitude of the failure that really does follow this form of quackery, that is widely advertised as being indorsed by leading physicians, ministers of the Gospel, etc. It is also reasonable to presume that not one tithe of the cases of insanity, nervous disorders and suicides which follow closely in the wake of the "Keeley treatment" ever sees the light of even a newspaper report.

No man can with pride and enthusiasm proclaim his downfall, hence the many who go back to their "cups" are never heard from; their friends and relatives take no possible pleasure in exposing their shame and degradation, and thus the relapses of many who have made loud their announcements of victory over "King Alcohol," through the aid of some secret remedy or wonderful nostrum, are kept hidden, and the avaricious manipulators of quackery prosper, and give to the world glowing statistics of their work, while truth is hidden by foolish pride and shame.

While under the stimulating influence of the drugs used by the "Keeley people," many have been induced to write or have willingly written glowing accounts of their cure, and lauded in eloquent language the virtues of "Keeley remedies;" but according to letters in my possession very many have wished, shortly after, that they had not done so, but lacked the courage to recall these accounts.

A few lines from a letter in my possession, written by a "Keeley graduate" and ex-president of a large bichloride of gold club, to a friend who asked his advice, will serve as an example. It reads as follows:

"DEAR SIR—I took the 'Keeley cure' nine months ago. While at the institute I was under the influence of some drug or drugs, which for the time being supplied the fancied need for stimulants.

"I was discharged as 'cured,' and was told that all desire for stimulants had been eradicated. I was given two bottles of medicine to be taken *if* I should have any return of the craving.

"Two days after leaving, the desire for stimulants returned, and I resorted to the use of the medicine. I was troubled with pains in my head and around my heart, such as I never had before. I finally found I had formed, or was forming, a habit as soul-destroying and body-destroying as that of over-indulgence in the use of alcohol.

"I have not yet recovered from the effects of the dosing and drugging I underwent.

"To God's mercy and the care of friends I owe my comparatively good health; to the 'Keeley cure' I owe nothing,

and at one time no man could have hoped more of the so-called cure than I; that was, first, while I was under the treatment, and second, while I was still taking the medicine given to me upon leaving the institute.

“While under the influence of the medicine, and while I thought it was curing me, I wrote a letter recommending the ‘Keeley cure,’ like many others. I wish now I had never written the letter. Such was my experience, and such was the experience of my brother whom, while taking the ‘Keeley medicine,’ I advised to undergo the treatment. I know of five patients who took the ‘Keeley cure,’ who became insane. They were less fortunate than my brother and I, less able to stand the drugging.

“Of the thirty-three patients whom I knew, who took the cure when I did, I know that over twenty have relapsed into their old habits, some of them after taking the cure twice, and even three times.

“I have no grudge against any person connected with the ‘Keeley cure.’ I took the cure; I advised others to take it. I even went so far in my blind confidence as to become president of the ‘Bichloride of Gold Club’ [the name and location of the club is given in the letter], but now I *know* my belief in the efficacy of ‘Keeley’s remedies’ was misplaced;” etc.

So this letter reads, and such is also the tone of many others. Such testimony needs no comment.

There seems but little excuse for praise or commendation of Dr. Keeley, after one stops and thinks carefully of his methods.

If his remedies are an improvement over those commonly used, then, when we consider that the great majority of sufferers from chronic alcoholism are composed of poor people who are unable to pay for a course at a “Keeley Institute,” we must look upon him as sordid, selfish, and without a shadow of true philanthropy, or the humane feeling that should mark the dealing of man with his fellows.

If his remedies are not what he claims them to be, and lack the efficacy and merit he widely proclaims they possess, and he, knowing this, continues to advertise them and prey upon afflicted humanity, what terms shall we apply to him?

If these secret remedies produce the sad and enormous results that our statistics seem to prove beyond a shadow of doubt, those of insanity, suicide, etc., and if he continues to use them for the sake of gain of gold, guaranteeing to his patients their harmlessness, shall not the strong arm of the law be called upon to interfere? Should not the medical profession put forth an organized effort and make an appeal to the

State Legislature, in the name of humanity and intelligence, to enact laws to prevent wholesale work of such a character, that is fraught with such dangers to its victims?

The public can afford to tolerate a share of innocent quackery and charlatanism, and be imposed upon by widely advertised proprietary medicines and nostrums, so long as they are simple, not dangerous nuisances; but when their use means insanity and suicide, it is time a note of warning should be sounded, and intelligence assert itself in the protection of public health and safety.

The production of insanity by a dangerous drug does not mean a calamity to the victim and his family and surroundings, but in many cases it will necessarily be the starting point of an hereditary taint that will curse with mental obliquity many generations to follow, and yet the "Keeley people" pose before the public as sincere physicians in possession of an invaluable secret remedy that will cure one of the most serious classes of afflictions to which the human race is heir. They claim that the discovery of their remedy is a special providence; yet, for the sake of gold and the greed of gain, they say the composition shall ever remain a secret. They pose as philanthropists, and yet charge large fees for the treatment, thus shutting out the poor and the needy. They parade themselves before the public as the doers of a great moral work, and call upon the ministry to assist in advertising their nostrums, and, much to the shame of some ministers, they have been induced to speak from the rostrum in behalf of a something they know nothing about; to indorse a mercenary enterprise that carries upon the face of it hypocrisy; to lend their pulpits to the advertising of a pseudo-philanthropic medical company; in other words, they have allowed themselves, apparently, to be made cat's paws of for the indorsement and support of a style of work that they claim daily to combat.

After careful examination into "Keeleyism," actuated by a desire to learn something of its merits and statistics from a source other than Keeley organs, paid Keeley lecturers, and newspapers subsidized by Keeley gold, I have been led to the following conclusions:

1. That it is, as Dr. Keeley says, "A system"—a system of charlatanism of large proportions.

2. That the system is carried into effect in a purely mechanical way, and that the "institute physicians" are little less than local commercial agents, knowing nothing of the "cure" which they handle and administer.

3. That the statistics published by the "Keeley people" can not be relied upon in the slightest, inasmuch as secrecy is their motto, whenever and wherever it pays in gold.

4. That their so-called cure contains dangerous and poisonous drugs, calculated, by the indiscriminate manner in which they are administered, to produce insanity and other serious psychoses.

5. That the remedy has an intoxicating and exhilarating effect, and that many of the finely written testimonials are written while the patients are under this influence.

6. That secrecy is maintained purely for the purpose of enhancing the commercial value of the commodity, and not because a valuable discovery has been made—speculating upon the fact that with the masses *omne ignotum pro mag-nifico* holds good.

7. That many ministers and prominent gentlemen who have spoken publicly in behalf of Keeley remedies and methods were actuated to do so by a desire to welcome any agency that would alleviate the evils of alcoholism, and not by any knowledge of the real merits of the “cure” or the nature of the results that follow its use.

8. That any physician who allows himself to indorse the Keeley cure, either in words or by advising a patient to take it, not only commits an act unprofessional, but forfeits his right to the respect of his professional brethren.

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## GYNECOLOGY.

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### ON A CERTAIN CAUSE OF STERILITY, AND ITS CURE.

By W. P. MANTON, M. D., Detroit, Mich.

In spite of the vast numbers of salpingo-oöphorectomies done yearly—many of them, it is to be feared, unnecessarily—in spite of the increasing prevalence of criminal abortion, and in spite of the Malthusian practices which are invading all countries of the world, the Rachel’s cry, “Give me children or I die,” continues to go up from the hearts of a host of women—so-called sterile.

Now, as sterility in woman may be not only a source of family sorrow and discord, but, in its far-reaching effects, a national calamity, the subject is one which should occupy no little attention and time of the medical profession, for whatever medical science can suggest or do to relieve the condition results in benefit to the individual and to the state.

Barrenness has been made a cause of action for divorce, and I have recently heard of a case where separation was desired by the husband because it was thought that the wife used



checks, and the husband desired children. I have been much interested in looking up the legal aspects of this condition. According to Lushington,\* the law recognizes as the principal ends of matrimony "a lawful indulgence of the passions to prevent licentiousness, and the procreation of children according to the evident design of Divine Providence." The former object appears to be of greater importance than the latter, since mere barrenness is not taken into account, the essential being an absence of congenital or acquired (before marriage) defect which will prevent the perfect consummation of marriage. An existing malformation which is capable of cure without too great danger to the individual offers no cause for divorce. "Mere incapacity of conception," says Judge Lushington, "is not sufficient ground whereon to found a decree of nullity, and alone so clearly insufficient that it would be a waste of time to discuss an admitted point."

The question of incapability of conception could be settled by a court of law only in respect to anatomical abnormalities, such as absence of vagina, uterus, or ovaries, etc.; but relative or absolute infecundity within the child-bearing age could not be proven by any means at present within the knowledge of jurist or physician. The law, therefore, which takes cognizance only of ascertainable facts, is evidently both correct and just. So-called relative sterility—omitting from discussion Malthusianism—is of such frequent occurrence that to grant a man a decree of divorce from a woman possessing all the attributes of her sex, simply because she has not conceived and borne a living child or children within a period, the limits of which are more or less arbitrarily fixed, would be to render an obvious injury and injustice to both the individual and the community.

To illustrate the length of time which women may go without conceiving, I may mention two instances from my case book in which the patients were sterile (one-child sterility) for twelve and seven years respectively, and then, as the result of a limited amount of local treatment, became pregnant and gave birth to healthy living children. In both of these cases the sterility was evidently due to the cause which is the subject of this paper. Oliver† records the case of a gardener's wife who became pregnant for the first time after ten years of full connubial relation; and a still more remarkable instance is reported by Nieden‡ of a woman aged 44 who conceived and bore her first child, a nine-pound girl, after twenty-five years of unfruitful married life.

\* Bishop on Marriage and Divorce, *Deane vs. Aveling*, p. 175.

† *Liverpool Medico-Chirurgical Journal*, January, 1890.

‡ *Archiv für Gynäkologie*, No. 5, 1889, page 871.

The influence of sterility on national growth is seen in the present condition of France. Rochard,\* in a recent paper before the Academy of Medicine of Paris, states that of ten million French families in 1888, two million, or one-fifth, had no offspring, while two million more had but one child. The effect of this sterility, together with the stringent marriage laws of that country, has given rise to a condition of progressive depopulation which, according to consular reports, seriously menaces the French people.

The last State census of Massachusetts also shows that one-fifth of the married women in that commonwealth are sterile. From this and other data which it will be necessary to quote, it would appear that the race of original settlers of this country is fast dying out, the local increase being the result of the multiplication of the foreign resident element.

The conditions which may give rise to or result in sterility in woman are so numerous and varied that a discussion of them all would require the latitude of a book and could hardly even be touched upon within the limits of a paper. I shall therefore confine myself to the brief consideration of a condition which, in my experience, is the most frequent cause of sterility, excepting, perhaps, abnormalities of the sexual tract. I refer to inflammatory conditions of the lining mucosa of the uterine neck and body. After a considerable experience with this class of cases, I am sure that I can say with truth that I have never seen a case of sterility in a woman, not the subject of a malformation or a new growth, in which endo-cervico-metrial inflammation did not exist.

The source of this condition is most frequently attributable, in women who have had children, to parturition or abortion; in the newly-married it may be due to a previously existing slight uterine catarrh in a displaced, usually anteflexed, uterus, or the manifestation of a depraved state of the system. In the majority of the newly-married, however, the endometrial inflammation is probably due to the first efforts at conjugal approach. Observation leads me to believe that many young women, as the result of their activity in the preparation of the wedding trousseau, augmented perhaps by a round of gayeties, late hours, and nervous anticipations or apprehensions, enter the married state in a condition bordering on physical exhaustion, and there begin the engorgements and inflammations which lead to future suffering and sterility. The effect of repeated coition, provided impregnation does not at once take place, is to flush and distend the uterine vessels, to modify the innervation, to alter the nature of the glandular secretions, and

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\*Review in *Internationale; Klinische Rundschau*, November 30, 1890.

thus to produce such changes in the endometrium as lead to inflammation and reflex phenomena. Backache, leucorrhœa, and irritable bladder are the ordinary signs of this condition; but frequently rectal tenesmus, head and gastric symptoms, dysmenorrhœa, and menorrhagia are added in the more pronounced forms of the disease.

In many cases the disease continues in a mild catarrhal form, giving the patient little inconvenience beyond the slight leucorrheal discharge which stains her clothing; but often this is sufficient to prevent the normal formation of the deciduæ and attachment of the ovum, even should impregnation have taken place. I have seen a number of cases of regularly menstruating women in whom all the symptoms pointed to frequent, almost monthly, abortions.

Physical examination in these mild forms reveals a cervix more or less softened, the os externum reddened and inflamed, and the canal filled with a plug of sago, white of egg, or mucopurulent discharge. In many cases there exists a sensitive spot at the os internum over which the passing of the most delicate probe causes a spasm of exquisite suffering, and where the mucosa of the fundus uteri is also involved the merest pressure of the probe against it elicits pain. Frequently a few drops of blood follow the withdrawal of the instrument. During the intermenstrual period, under normal conditions, according to Tyler Smith,\* a plug of clear, viscid mucus, which is secreted by the glands of the cervical canal, blocks up that passage, but is washed away each month by the menstrual discharge. The obstruction must seriously interfere, under ordinary conditions, with the entrance of the spermatozoa into the cavity of the womb, and renders the former theory, recently revived by Bossi,† that impregnation is most likely to occur just after the menstrual epoch, quite tenable.

But here we must consider another element in the prevention of conception, due to the inflammatory changes in the mucosa. The reaction of the normal vaginal mucus is acid, that of the cervix alkaline; but, as the result of the inflammatory conditions present, the reaction of each is often greatly intensified, especially of the vagina, which also frequently has an exceedingly sour and penetrating odor. This acid discharge, bathing the neck of the uterus, penetrates more or less into the cervical plug and causes coagulation of the alkaline mucus. Mitchell states that the cervical canal often has an acid reaction, but I must agree with Haussmann‡ that the condition is not due to the local glandular secretion, but is transferred from the vagina.

\* "Pathology and Treatment of Leucorrhœa," Philadelphia, 1855, p. 46.

† Nouvelles Archives d'Obstet. et Gynéc., April, 1891.

‡ "Ueber das Verhalten der Samenfaden in den Geschlechtsorganen des Weibes," D. Haussmann, Berlin, 1879.

In normal condition the alkalinity of the seminal fluid appears to be sufficient to neutralize the acidity of the vaginal secretion, so that the spermatozoa may remain for seventeen days or longer (Bossi) within the vaginal canal, even during a menstrual period, without having their vitality destroyed.

When the hyperacidity of the vaginal secretion is present, however, it is altogether probable that the fertilizing element is at once rendered inert; but should any of the spermatozoa by chance succeed in reaching the os externum and cervical canal, the coagulated mucus, and the increased alkalinity of the secretion there, would, in all probability, put an end to further progress.

The conditions, then, in the disease under consideration, which appear to prevent fecundity, are:

1. The absence of a proper nidus for the ovum.
2. The obstruction of the cervical canal by the mucous plug.
3. The increased alkalinity of the cervical secretion, often accompanied by an exaggerated acidity of the vaginal mucus.

The causes of sterility once understood, treatment is easily inaugurated. Our first object is to bring about a normal condition of the endometrium—a task which is often difficult, and may necessitate treatment extending over a period of many months. Intra-uterine applications, the curette, and not infrequently the dilator must be called into service. The vaginal secretions must be corrected by douches and alkaline washes, and the bowels regulated. Whenever the general system is lowered in tone tonics are indicated, and it is often wise to continue their use until some time after the local symptoms have subsided. Where the nervous system is much deranged general faradism and massage are of the greatest benefit, while sedatives and nerve tonics are always of importance whenever indicated.

As illustrating the condition, the symptoms, and treatment which I have briefly rehearsed, I have selected two cases from my records, believing that these will serve to make clear the preceding remarks as well as would a hundred of the same kind.

CASE I.—Mrs. K., German, age 26, married two years, but has never been pregnant, and is very desirous of having a child. She has suffered three or four years, and has been under several physicians, but has obtained no relief. Complains now of pain in right side and of intense itching of vulva.

Menstruation began at 15, regular until marriage, but since has appeared every three weeks. Formerly flowed four or five days, using three or four napkins; now one to two days,



with one napkin. Pain just before flow, kneeache, backache, etc. Her sufferings now are so severe that she is obliged to be in bed during a part of the time. A white, thick leucorrheal discharge is persistent. Bowels constipated. General health good.

*Physical Examination.*—Uterus retroverted, normal size, mobility good; length of cavity two and three-quarter inches. Cervix long, conoid; external os slightly relaxed, showing inflamed mucous membrane. Canal filled with glairy mucus. Blood follows withdrawal of probe. The labia minora project some distance below the larger lips, and their mucous covering is skin-like and harsh.

*Diagnosis.*—Endometritis, conoid cervix. Pruritus vulvæ, due to profuse leucorrheal discharge.

*Treatment* continued over seven months, twenty-two visits. This consisted in dilatation of the uterine canal with Ellinger's dilator, the application of campho-phenique and iodized phenol to the cavum uteri, painting the cervix with tincture iodine, and tannin and iodoform-glycerine dressings. Cocaine, campho-phenique, and a 10-per-cent. solution of silver nitrate were applied to the labia. On one occasion she had vaginal negative galvanism for ten minutes. Cathartics and general tonics were also given. Two months after treatment was discontinued she became pregnant, and in due time I delivered her of an eight and one-half pound boy after a normal labor.

CASE 2.—Mrs. B., age 23, a thick-set, healthy-looking brunette, married between three and four years. Two years and a half ago she aborted at three months, and flowed for thirteen weeks subsequently. Menstruation began at 15, irregular and scanty; pain for three days before, and during the first two days. Complains now of severe burning in left ovarian region, which is worse a week before the flow. Has a profuse, rusty leucorrhœa. Bowels constipated. General health good.

*Physical Examination.*—Perineum very strong and thick. Vagina small, tight, and sensitive, rather rough feel; examination almost impossible on account of the vaginal spasmodic contraction. Pressure over ovaries causes considerable pain; no enlargement apparent. Conoid cervix; no indication of previous abortion. Cavity about two and one-half inches. Cervix closed, hard; blood follows probe. Vaginal secretion very sour, with penetrating odor.

*Diagnosis.*—Ovarian hyperæmia; endometritis catarrhalis; vaginismus; hyperacidity of vaginal secretion.

Patient seen fifteen times during a period covering several months. At first only sedatives were given; later local appli-

cations of potassium-iodide glycerine, and hot vaginal douche, once a day, were employed. At the eleventh visit I thoroughly dilated the uterine canal, under an anæsthetic, with Goodell's dilator; and swabbed the cavity with iodized phenol. Treatment continued at irregular intervals for a few months, when, the patient becoming pregnant, it was suspended. She was delivered of a seven and three-quarter pound male child at term, and became again pregnant about eight months later.—*J. W. P. Mauton, in American Journal of Obstetrics.*

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## FACTS AND FALLACIES CONCERNING THE OPERATION OF SHORTENING THE ROUND LIGAMENTS.

By WM. ALEXANDER, M. D., F. R. C. S., Liverpool.

During the past surgical year I find I performed 731 operations. Fourteen of these consisted in shortening the round ligaments, viz., six times for complete procidentia in connection with perineorrhaphy, and eight times for backward displacements. Twenty-seven ligaments were shortened in the fourteen cases, no attempt being made to shorten the twenty-eight, on account of adhesions found before operation at that side of the pelvis that would probably have rendered the attempt a failure. The single ligament brought the uterus well forward, and when last seen the uterus was in a state of slight anteversion.

In none of these cases was the slightest difficulty experienced, and the same remark applies to previous years, when the number of round ligament operations varied from this small number to perhaps forty as the maximum.

I therefore perform the operation a fair number of times each year and in the old way. In America and France I see the operation is still engaging attention, and some American surgeons have operated successfully in an enormous number of cases. Only the other day, Dr. Walter Burrage, in one of the American papers, gives the operation its due appreciation. Modifications of it are being constantly proposed, some good and some retrograde; for instance in the *Revue de Chirurgie*, 1892, M. Chalot describes his method of performing this operation, which he thinks is simpler and surer than the usual procedure. He opens the inguinal canal for nearly its whole length—about four centimetres—so that the ligament is easily found, even in fat women. He dissects each ligament quite free, as far as the internal ring, sometimes opening into the peritoneal cavity. The uterus is not replaced during the operation until it is done by energetic traction on both ligaments.

Each ligament is fixed with sutures through the whole length of the inguinal canal; no pessary is worn after the operation. The author reports six cases, one of them after a lapse of fourteen months.

From this and other recent utterances in this country and abroad, it would seem that there are many erroneous opinions extant in regard to this operation, and hence my idea of reading this short paper to correct them, if possible.

The first fallacy I would refer to is the somewhat prevalent idea *that the round ligaments are uncertain structures and difficult to find*. I wish to state most emphatically, and from a considerable experience, that the round ligaments are practically always present and available, and that the failure to find them is distinctly personal and not anatomical.

We have only to cut down upon the external oblique muscle, close to the external abdominal ring, and expose *without disturbing* the structures issuing from that ring, and there the ligament lies waiting to be picked up, as surely as we have eyes to see it. We may not be able to see it, and we may tease it away with forceps, etc., but that is our affair. The ligament was there ready to hand and always capable of pulling the uterus up, could we but grasp the opportunity.

Most of the operations in gynæcology are rough operations. We pull out an ovarian tumor or a uterus, tie it with a string or a piece of wire and chop it off. Perineorrhaphy is one of the rudest plastic operations in surgery. But shortening the round ligament is a neat little operation that requires precision and practice to perform successfully, and hence the difficulties gynecologists meet with in attempting it.

To find the ligament two things only are necessary—first, to be able to find the external abdominal ring, and second, to be able to recognize the ligament as it lies in the ring. Teasing with probes, blunt dissectors, etc., must be completely dispensed with. If the ligament is not distinctly seen when the thin fascia over the ring is cut through, the canal may be opened up a little. It is rarely necessary to open it up completely as recommended in the cases referred to at the beginning of this paper, and this certainly need never be done as a routine performance. A sound abdominal wall can not be improved on by operation, but is, on the other hand, always weakened by operation, and hence my aversion to such a procedure.

I catch the ligament in forceps, but only to place it in my fingers, and then by gently pulling on it I can see its outline distinctly, and by a blunt dissector it can be set quite free, and as soon as it is set free it comes out easily and is a substantial structure quite fit for the purpose intended.

I have met with only one or two instances where one ligament was adherent and would not "run," but in practically every case, what are said to be adhesions are not adhesions at all, but entanglements, produced through having other structures in the fingers or forceps as well as the ligaments. Whenever the ligaments do not run freely, it is a sign that it is not sufficiently isolated. So that it is an entire fallacy to say that the ligaments are structures, the presence of which in a given case is uncertain, or that if present, they may be useless, through extreme tenuity, adhesions, etc. The facts are, that they are always present and always available for the purpose of the operation. My next point is that failure sometimes results because the ligaments have not been shortened sufficient to be effectual. The ligaments must be drawn out so as to control the uterus and keep it nearly in its normal position. I remember four cases operated on by other operators, and one case of my own, where the ligaments were not drawn out sufficiently, and where re-shortening maintained the uterus in good position afterward. Several medical men who have been present at my operations, and who have seen others operate, have been surprised at the amount of shortening effected in my operations compared with the amount in the operations of others, and the thick ligaments stitched up by me to the small threads stitched up by others. The operation is a slight one, and the wound generally heals up rapidly. Suppuration is very exceptional and its occurrence is as great a failure as it is in any other antiseptic operation. I now use a single silk-worm gut suture put twice through the ligament and the pillars of the ring, and leave it there. A variable amount of pain is experienced the first two or three days. After that the convalescence is easy; in fact so easy that it is difficult to keep the patient in bed during the three weeks necessary for the ligaments to unite firmly.

Hernia does sometimes occur, but is comparatively rare, and pain in the cicatrix is also sometimes very annoying. The first may be prevented by stitching up the canal firmly and the second by cutting short the little nerve that lies in front of the ligament, so that it does not get caught in the cicatrix. In some cases I have had to excise the cicatrix before relief was obtained, and found a small neuroma as the cause. These are the only valid objections I know to the operation.

I consider the operation to be indicated in two classes of classes.

1st. In cases of retroversion or retroflexion: (*a*) that can not be controlled easily and conveniently by pessaries; (*b*) where the displacement is productive of symptoms that require



to be permanently relieved once for all, as in patients going to out of the way places; and (c) where the backward displacement can be corrected by the finger or sound. The operation directly cures these cases. Where the *retroflexion* is a pronounced aspect of the case, a stem pessary must also be worn during convalescence to prevent recoil of the retroflexed uterus, and to neglect it is to assure a failure. At the end of three weeks of the stem, the ligaments will generally control the retroflexed womb, but in some of these chronic cases a longer time is necessary before the power of recoil is lost. In all these cases I use a Hodge to steady the womb for three weeks or longer, if necessary.

Now, judging from my own experience for a considerable period, and watching many of the cases for years, I can assert that in the vast majority of them the cure of the backward displacement is complete and permanent. Primary failures may occur through inability to put the uterus straight by reason of adhesions, want of union of ligaments, insufficient shortening of ligaments, etc., but reflexion very rarely occurs, and in this respect the patient is in a much better state than the average of ladies unoperated upon and who have never had anything the matter with them. I can cite samples by the score of patients who have been operated on from seven years or eight years ago, up to six months ago, and who are still well, and some of whom have had one, two or three children since without destroying the effects of the operation. I have proved it in every possible way. One of my patients died from phthisis about three years ago, and one could see in that case how firm and strong the ligaments were. I removed a small ovarian from another patient who had had the round ligament shortened, to her great relief, for retroflexion, many years ago. At the operation the excellent position of the uterus could be seen as well as felt. Many of my patients call upon me occasionally, frightened lest displacement should recur. So that I have had an opportunity of examining them again and again, and I have no doubt of the effectiveness of the operation.

Of course I have had failures, but they have always been at the beginning. I could not get the uterus erect, or the wounds did not heal by the first intention, and probably the ligaments sloughed off and did not hold, but giving a most liberal discount, these failures do not amount to 10 per cent.

We come to the alternatives. They are no doubt available in the majority of cases, and my statistics show that in only a few cases do I operate. But in the chronic obstinate cases the alternatives imply years of treatment, weeks, nay, months, of lying up again and again. I have known patients spend their

lives under their doctor's care and bath chairs, and chronic invalidism is the common alternative to the cases that can be cured by operation.

In complete procidentia the uterus is retroverted as well as prolapsed, and a cystocele or rectocele, or both, complicate the position of affairs.

Many operations have been performed on the perineum and vagina for these distressing cases, and failure often results from the dilating power of the wedge-shaped uterus gradually dissipating the barrier that the surgeon has raised. In these cases a uniform success that has stood the test for some years in many cases has followed my procedure of shortening the round ligaments, and at the same time making a new perineum and extending the old one. By this means the uterus is brought upward and forward into the natural position, and has all the support and advantages of that position, whilst the cystocele and rectocele are supported by the new and advanced perineum.

The two operations are always done at the same time, and do not usually occupy more than half an hour altogether, and the distress occasioned by both is not greater apparently than that occasioned by either. The perineal operation gives the patient the most trouble.

An old fallacy still holds its ground in some minds, that in these cases the round ligaments must support the whole weight of the uterus after operation, and hence, as they are manifestly too weak, failure must result.

The round ligaments act after operation as check ligaments, strong enough to limit the backward movements of the fundus uterus, and no more. The usual forces, in the now restored natural position of the uterus, prevent prolapse, and the round ligaments have nothing to do with them, any more than have healthy ligaments.

In proposing the operation for retroflexion the patient is often deterred from accepting the method of treatment just because it is an *operation*. But where we are performing the perineal operation such an objection has no place, and I never would think now of operating on a complete procidentia without also shortening the round ligaments.

For the reasons given I find the operation exceedingly useful in my practice, and I feel confident, when given a fair trial, which it has never yet been given in England, it will take its place as one of the most reliable operations in gynecology.

It will be seen that the operation is a very small fraction of my surgical and gynecological practice, but it would be a blessing to mankind if all, or even a fraction of, the recognized operations answered their expected purposes as definitely.—*Provincial Medical Journal*.

## EYE, EAR, NOSE AND THROAT HOSPITAL.

NEW ORLEANS, June 14, 1893.

At a special meeting held this day the following communication was read:

NEW ORLEANS, June 9, 1893.

*To the Board of Trustees of the Eye, Ear, Nose and Throat Hospital:*

GENTLEMEN—I write to you as the residuary legatee of my uncle, the late Robert Moore. Knowing his heart as I did, that is to say, the purposes of his life, gathered from intimate association with him like that of a son with a father, and knowing the unostentatious but quick and deep sympathy that he had with every practical and useful charity, I take pleasure in what I regard also as a duty incumbent upon me, in stating that the sum of twenty-five hundred dollars (\$2500) is placed to your credit at Moore, Hyams & Co.

I wish you to regard me in a certain sense the almoner of my uncle, and treat the gift as from him more than from me.

Very respectfully,

ROBERT MOORE, JR.

The following resolutions by Dr. Roaldes were adopted:

“WHEREAS, This institution has been officially notified by Mr. Robert Moore, Jr., the residuary legatee of the late Robert Moore, that the sum of \$2500 had been bequeathed to the Eye, Ear, Nose and Throat Hospital; and

“WHEREAS, This donation arrives at a time when this institution is the most in need of funds to meet part of the heavy expenses recently incurred for the conversion of the building to hospital purposes; be it

“*Resolved*, That the bequest is hereby gratefully accepted, and as a mark of respect to the memory of the donor, the house committee be and is hereby authorized and empowered to have a memorial tablet made of black marble, to be placed in the hall of the hospital, on which shall be engraved in gilt letters the name of our benefactor, Robert Moore, the amount of the donation and the date of his death.

“*Resolved further*, That these resolutions be spread upon our minutes and published in the newspapers and that a copy thereof be sent to his nephew, the residuary legatee, Mr. Robert Moore, Jr.”

A true copy.

JOS. A. HINCKS, *Secretary*.

## MORTUARY REPORT OF NEW ORLEANS.

FOR MAY, 1893.

CAUSE.	White.....	Colored..	Male.....	Female....	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	1	5	2	4	3	3	6
“ Intermittent .....	1	1	1	1	1	1	2
“ Remittent .....	4	3	6	1	4	3	7
“ Congestive.....	7	4	8	3	3	8	11
“ Typho .....	3	1	2	2	2	2	4
“ Typhoid or Enteric.....		1	1		1		1
“ Puerperal .....	1			1	1		1
Leprosy.....		1		1		1	1
Influenza.....							
Measles .....							
Diphtheria .....	7	1	5	3		8	8
Whooping Cough .....	2	1	1	2		3	3
Meningitis .....	15	3	8	10	2	16	18
Pneumonia.....	7	12	10	9	12	7	19
Bronchitis .....	10	9	12	7	6	13	19
Consumption.....	31	26	35	22	55	2	57
Cancer .....	14	7	8	13	20	1	21
Congestion of Brain.....	3		1	2	1	2	3
Bright's Disease (Nephritis) ....	17	5	13	9	21	1	22
Diarrhœa (Enteritis) .....	49	19	39	29	16	52	68
Cholera Infantum .....	53	21	34	40		74	74
Dysentery.....	5	5	5	5	9	1	10
Debility, General .....	1	2	1	2	3		3
“ Senile .....	12	12	10	14	24		24
“ Infantile .....	4	6	3	7		10	10
All other causes .....	180	91	160	111	163	108	271
TOTAL .....	427	236	365	298	347	316	663

Still-born Children—White, 26; colored, 15; total, 41.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 27.77; colored, 40.74; total, 31.32.

F. W. PARHAM, M. D.,  
*Chief Sanitary Inspector*



# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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VOL. XXI.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### SYRINGOMYELIA AND LEPROSY NERVORUM.\*

By ISADORE DYER, PH. B., M. D.

LECTURER AND CLINICAL INSTRUCTOR IN DERMATOLOGY, MEDICAL DEPARTMENT TULANE UNIVERSITY; DERMATOLOGIST TO CHARITY HOSPITAL; EYE, EAR, NOSE AND THROAT HOSPITAL, NEW ORLEANS, LA.

Syringomyelia is defined as an affection of the spinal cord, with more or less destruction of gray matter. Its multi-form symptoms are considered due to the formation of a cavity, just outside and near the spinal cord, the result probably of the degeneration of proliferated masses of neuroglia or of a glioma. Morvan's disease or the "analgesic whitlow" has been recognized as a pathological identity with Syringomyelia.† Numerous cases of both have been studied and reported in Brittany, in France. Dr. Zambaco-Pacha, in a paper entitled "Leprosy in Brittany," reported a series of cases before the French Dermatological Society.‡ Many were clinically recognized as syringomyelia and Morvan's disease. In the same communities, however, distinct cases of anæsthetic leprosy were discovered. So closely have modified anæsthetic leprosy or leprosy nervorum and syringomyelia been brought together that the question is now raised as to the identity of some of these cases.

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\* Paper read before the Orleans Parish Medical Society, May 27, 1893.

† Joffroy, *Archiv. de Med. Experi.* 1890, p. 540.

‡ Zambaco-Pacha, *Annales de Derm. et Syph.*, Dec. 1891, p. 1213.

The literature of the past year is not meagre. Dr. Leloir of Lisle has just presented the question before the Paris Academy of Medicine. Dr. Zambaco-Pacha's paper came, almost bringing conviction. The medical faculty of France seem loth to admit so general an existence of leprosy in France as Dr. Zambaco-Pacha's reports would imply. The principal point in Dr. Zambaco-Pacha's paper is that true leprosy was found in a section where the disease had been so prevalent from the twelfth to the sixteenth century and in which it was supposed to be extinct. From these cases of true leprosy, up and down the scale, he reports cases differing so little one from the other that differentiation seemed almost impossible. The milder types, allied by comparative diagnosis, were exact types of the so-called syringomyelia and Morvan's disease.

With three centuries of indolence and with everything regarding, and arguing from analogy, it seems possible that the nerve degeneration in these cases might be simply the last expression of an effete disease. In so few respects does syringomyelia as represented differ from *lepra nervorum* as represented, that I have presumed to impose upon your time with a brief review of a clinical comparison, with two cases in exemplification.

Certain well defined clinical features mark the existence of syringomyelia. It is truly a tropho-neurotic disease, in which there are trophic cutaneous disturbances, atrophy of muscle, and troubles of sensibility, glossy skin, red or violaceous skin, thickening, fissuring, ulceration and alteration in the nail substances—all prominent evidences; perforating ulcers of hand and foot, eczematous eruptions, herpetic and vesicular eruptions, with ulceration and consequent pigmentation. All of one extremity, usually the upper, is involved, The sense of heat and cold, and pain are lost, while that of touch remains (*Charcot's syringomyelic dissociation*).

There is muscle atrophy, resulting contractures, all progressing slowly. Claw-hand is usual, and often (as in Morvan's disease) mutilation results from the trophic ulcers at the joints. The tendon reflexes are diminished, sometimes lost, never exaggerated. The skin reflexes are variable. Scoliosis is common. Incoördination may obtain. Syringomyelia pro-

gresses slowly and predominates in the upper extremity. The glioma found is usually in the cervical enlargement of the medulla.\*

Lepra nervorum, in its gradual development, with marked prodromata, offers a very similar clinical picture. From the rheumatoid pains, fevers, recurrent eruptions of blebs, the slowly developing anæsthesia, the final general loss of sensation, the indolent anæsthetic ulcers, and the consequent mutilation, the disease affords a kaleidoscopic picture with ample latitude for the selection of those symptoms which characterize syringomyelia. In what do they differ?

The bacillus of Hansen has yet to be found in cases of syringomyelia. But it is not always found in all stages of lepra nervorum. The gliomatous condition is absent in leprosy, or rather it is yet to be found, for, while anæsthetic leprosy is acceptably a disease of the peripheral nerves, in many cases the nerves throughout their length have been found to have undergone various changes. The long nerves, as the ulnar and median, are as a rule chronically inflamed along their course. McCall Anderson speaks generally of a morbid condition of the nerves. In true cases of lepra nervorum Charcot's dissociation test has been found very responsive.†

Scoliosis is not common in leprosy. The case presented has a marked curvature. So much, then, do anæsthetic leprosy and syringomyelia approximate that it seems rational to embrace in the generic term those cases which are merely a combination of certain unusual symptoms called by a new name—Syringomyelia. Much of the testimony in this question has been drawn from Brittany and other leprous centres. The occurrence of the two diseases side by side, the study of various cases with varying symptoms makes an alliance very probable.

Rendu reported a case from Tonkin with dissociation of the sensory symptoms of syringomyelia, which case Charcot, Leloir and Hallopeau considered to be anæsthetic leprosy, the patient having thickening of the ulnar nerve and paralysis of the orbicularis oculi, as well as trophic troubles of the lower limbs.‡

\*. Dana; 1893. *Diseases of the Nervous System*, p. 282.

†. Quinquaud; *Le Progres Medical*, May 10, 1890.

‡. Ib. Soc. Derm.; *Annales de Derm. & de Siph.* Vol. II, 1891, p. 409 (Crocker).

Living in the most important leper centre in the United States, where new cases of leprosy are cropping out every day, it has seemed to me that our society should discuss so important a question as this. With a positive and unquestioned history of leprosy in our community, the two cases I have to report will be, I am sure, in point.

CASE I.—Syringomyelia. White. Male. Aged 61. Born in New Orleans. Occupation, real estate agent. Father born in France (Nantes). Mother in Louisiana. Father died at 52. Mother at 81. No family history of leprosy. No history of contact. Has always lived in Louisiana, mostly in New Orleans; frequently in Bayou Lafourche, often for weeks at a time. He has visited other sections where leprosy is known to exist. In 1891 noticed first sore on right hand, a blister. These have been coming and going at irregular intervals since. Eruption is mostly on the right hand, one suspicious ulceration on the left forefinger. This eruption on the right hand is bullous, some broken down blebs, with ulceration, and several atrophic patches with pigmentation. If the symptoms of syringomyelia are reviewed, the case before us will be found true to the diagnosis.

The blisters occur for the most part on the fingers just over the knuckles. There is tissue atrophy succeeding each blister. The ulcers are persistent and obstinate to treatment. There is loss of sensibility in the whole of the right upper extremity (a favorite location). Ice and a Pacquelin point side by side gave no response to heat, cold or pain. The sense of touch remained; that of localization was impaired. There is marked muscle atrophy and it is progressive. The claw hand is quite marked. The patient has lost his grip in a great degree. Patient experiences frequent rheumatoid pains in the right arm. There is no incoördination and the patellar reflex is unaltered. There is some deafness on the right side. Note the scoliosis, the predilection for one member, that the upper extremity, the claw-hand, progression in its development, the syringomyelic dissociation, which pleads the diagnosis, the ulceration, especially over the joints, with consequent atrophy and contracture, all are in evidence.

CASE II.—Male. White. Aged 63. Born in France; occu-



pation, butcher. Has lived in Louisiana 33 years. Father and mother born in France. Father died at 50 of pleurisy; mother died at 84 of old age. Patient's general health has always been good. When first seen the patient had crops of vesicles, some pustules on hands and feet, elbows and knees. These were readily healed, but left white scars. After a lapse of over two months the patient was readmitted to the hospital. The patient presented on the hands a fresh crop of vesicles, with several bullæ. The knees, etc., previously affected were not attacked. Notwithstanding treatment there have been successive outbreaks of the blisters. Both hands are affected. The sense of touch persists in hands, though the sense of pain and heat and cold are lost. The skin of the face thickened; the ears appear infiltrated; there is marked ectropion of both lower limbs, the left being affected since the patient's admission. There is scarring where the blisters have broken and the skin healed on the hands and fingers. The lower half of the legs present an eczematous eruption of unusual type. There is marked loss of tissue and anæsthesia.

Some three weeks after the patient was the second time admitted to the hospital, there appeared rapidly various sized macular lesions over the body, before that time free from any eruption except those above described. These lesions are characteristic of classical anæsthetic leprosy. They are anæsthetic, have the pigmentation, the thickening and central atrophy peculiar to leprosy, the anæsthesia of the hands, the rheumatoid pains, the trophic lesion, the blisters, ulcers and the muscle atrophy, all are characteristic of anæsthetic leprosy. Of course the development of the macular eruption proves conclusively the diagnosis. This case with the one just presented has many points in common and until self-excluded it seems as if its course would be the same.

With the history of two cases so similar; with the acknowledged fact that in anæsthetic leprosy the peripheral nerves undergo marked change, and that often the whole of a spinal nerve may present pathological changes; with the clinical phenomena of syringomyelia and anæsthetic leprosy so closely akin, it seems rational to favor a relationship and in some cases an identity.

## SOME OBSERVATIONS ON LATENT CASES OF ARTERIAL SCLEROSIS.\*

BY DR. EDWARD M. DUPAQUIER, NEW ORLEANS, LA.

In my practice, among the cases that have made the deepest impression upon my mind, were two cases of arterial sclerosis: one, in 1888, appearing under a cerebral form; the other, in 1893, appearing under a gastro-cardiac form. The two cases were strikingly latent and disguised.

CASE I.—In October, 1888, I was called in to treat Mr. F., age 61, born in Louisiana. He belonged to the cultured class; there was gout in his family; himself had lived high, had indulged in pleasures formerly. He would yet, at the time I saw him, take several drinks a day and smoke twenty cigarettes daily. He, not only had sedentary habits, but he worried and grieved. He looked depressed. Though conscious and intelligent, he appeared to make an effort to think and talk. He was tall and slender. The skin over his body was parchmentlike. His complexion pale and body wasted. He had very weak limbs and back. In short, a breakdown in the general health. Temperature was normal. I attributed to excessive use of tobacco, a short paroxysmal dyspnœa upon exertion and palpitation occurring at night and through the day during digestion. The heart was impulsive, and the arteries throbbed in the epigastric region and in the head, causing pain. There was a distinct enlargement of the area of heart dullness. No murmur. The radial artery was not tubular, not tortuous. The radial pulse on both sides was isochronous, full and large. No appetite. Constipation. Polyuria or frequent urination, but *no albumen* in the urine. Constant vertigo. Nervous irritation, alternating with periods of depression. Stubborn sleeplessness.

My diagnosis was at first *severe anæmia*. My treatment was: abstain from alcohol, tobacco. Milk diet. Stay in the country. He went to Abita Springs.

Some time later, one evening I was called in a hurry to see the same patient. I found him sitting up in his bed, very pale. He bore a countenance of anger, and expressed it in

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\*Paper read before the Orleans Parish Medical Society, June 24, 1893.

loud, broken words. He apparently was on the verge of delirium and convulsions. With a groan and a sudden jerk he was startled as by unexpected electric shocks. Then he felt giddy and fainted, unconscious with closed eyes. The skin was cool; heart sounds hardly perceptible; pulse small and rapid; Cheyne-Stokes respiration. Excluding urine, as the kidneys were permeable, I thought, still under the impression of my first diagnosis, that the well marked Cheyne-Stokes phenomena was due to a suddenly failing myocardium and ischæmia in the medulla-oblongata (respiratory centre). I gave a hypodermic of digitaline (Homolle and Quévenne granule, 1 mm. in alcohol and water.) Half an hour later the patient sat up again and shrieked with pains, all over, more restless than before his fainting spell; he was awfully restless. I determined to quiet him, and gave a hypodermic of morph. sulf., 1 cent., and atropine  $\frac{1}{2}$  mm. in water. One hour later the patient was asleep, with regular breathing and better pulse. He was resting for the first time in several days. Next morning I was called in a hurry. My patient was dying. He was in deep coma, and I thought that the morphine, though it was given in a small dose, had precipitated the breaking of a blood vessel in the brain, causing cerebral hæmorrhage; though I must say, at the time I observed him there was not, like on the day previous, any appearance of Cheyne-Stokes breathing, as seen in coma of opium and morphine poisoning and in coma of cerebral hæmorrhage.

CASE II.—In February, 1892, I was called in for the first time to treat Mr. B. Found him in his bed suffering with one of his old attacks, he had repeatedly had since 1860. Pain located in the pit of the stomach, radiating into the region of the liver, like hepatic colics, attended with vomiting, tympanites and flatulence. Pallor of face, cold extremities, vertigo. Axillary temperature, normal. Respiration normal. Heart impulsive, *sharp aortic sound prolonged*. On both sides the radial pulse was a full, large high tension pulse. Pulsations 80. No marked cordlike radial. I gave him for that severe gastralgia a hypodermic of morphine gr.  $\frac{1}{4}$  and atropine  $\frac{1}{100}$  of a grain. Pain abated somewhat, but recurred at times.



Next day my visit was devoted to a thorough examination. In his history, the following is noteworthy:

Age 74. Carcinoma in the family (his sister). Good habits. Sedentary life of late. Much mental strain and considerable grief. On least error of diet, since 1860, paroxysms of gastralgia. Permanent dyspepsia.

On the second day of this attack respiration began to change. Dyspnœa *on an effort* to raise himself from bed during examination. Posteriorly congestive râles. Instead of the sharp aortic sound, a distant sound. *Albumen* in urine. Pain recurs. I object to morphine, and give digitaline 0.001 gm. by the mouth, and strychnine 0.001 gm. every six hours till further orders.

*First Week.*—Pain subsides. Persistent dyspnœa, and albumen in the urine. Nervousness and sleeplessness.

*Second Week.*—Same as above. Though the patient appeared better on account of the subsidence of pain, *still I stated* to the family that upon the occurrence of his ordinary attacks, the patient, this time, had suddenly manifested symptoms of heart disease and vascular disease; that, consequently, the prognosis was very grave. But I had not positively said that he would probably die *suddenly*. On the 20th of February (15 days after his paroxysmal gastralgia) he retires to bed and dies.

Summarily, the two cases present each two periods: A long, latent, insidious period during which no precise diagnosis could be made out. A second, sudden unexpected and fatal period, showing at the bottom of their morbid history the general sclerous disease called arterial sclerosis, but which, from the latest discoveries, I may observe, should be better termed vascular sclerosis, as the veins, as well as the arteries, and probably, too, the lymphatics, are involved in the same general sclerous disease.

My cases were not verified by autopsy; but comparing their clinical features and sudden termination with similar cases in the literature verified by autopsy, considering the data in the literature regarding sudden death and cardio-vascular diseases, sudden death and arterio-sclerosis, I may venture to say that my two cases were cases of arterial sclerosis. What,



then, is this arterial or vascular sclerosis? Pathologically, it is like atheroma, a co-effect of a general disease, arteritis, endarteritis; but, unlike atheroma, which locates in the larger vessels, arterio-sclerosis locates throughout the whole vascular system. Not having time to lay stress on this anatomico-pathological point, I pass rapidly to the clinical aspects of arterio-sclerosis.

It is a disease of modern import, a predominant factor in general pathology and chiefly in cardio-renal pathology.

Ætiology in diseases of man, progressing like other branches of human pathology, searches causes of our diseases, not only in parasites of the vegetable and animal kingdoms, in toxæmia of material composition, but it extends its investigations to the “*ensemble*” of our civilized medium, involving the psychical part of man’s existence. This civilized medium made up of physical and mental excesses, overwork, worry and grief is crystallized in our “*Modern Life.*” Just now, all over the world, man studies, works, worries and grieves to an excess. Take for, instance, the medical man of our days, the medical man of genuine medical temperament. What is he, in short? The type of the highly civilized man.

Well, now, on account of the defects of modern society, that best type of man falls a victim of high physical and mental tension. From what I have read of Gross, Fothergill and Trélet I can easily paint a tableau; broad mind, generous heart, noble, nervous cell evolving to perfection, constant study, unceasing reflection, worry about his cases, physical fatigue for earning his bread, and that of the dear ones depending on him; in addition to this, grief from disappointment, injustices and errors.

This is a synthetical tableau of the most highly civilized man, drawn after men eminent in our profession. In that man are united all the factors of *neurasthemia* and *arterio-sclerosis*, the corollaries of our modern days. More so, in our country, sudden death and premature death of eminent men are reported daily in our large American centres, as if the American heart were wearing out. It is all due to the wonderful strength and strain of the nervous temperament of the American people, upon which temperament Da Costa and Fothergill have justly

remarked—temperament, which our modern life strains to an excess. Right here, in our midst, I know there exist irritability, exhaustion, arterial hypertension. Look out for arterio-sclerosis, the necessary corollary of the conditions inherent to our present time. No wonder that arterial disease is ubiquitous, if we observe that, aside from the present social and psychical hypertension, other very common conditions favor arterio-sclerosis. These are—

Diatheses: rheumatism, gout.

Intoxications: alcohol, tobacco, syphilis, lead, malaria.

Infections: typhoid fever, smallpox, erysipelas, diphtheria, pulmonary tuberculosis.

Natural causes: senility, change of life.

In reference to these *material* factors of arterio-sclerosis, I observe in Case I, “Tobaccoism” or “Tabagisme,” so dreadfully common in all classes, and alcoholism. In the better class, *alcoholism* progresses under small doses of questionable high branded liquors and wines. Aristocratic alcoholism differs in quantity and quality from the style of the common toppers; but, clinically, the result is just as bad. Because I observe that: If in the common toppers the whole nervous system is rapidly and violently impressed, and, if demonstrative, delirium tremens is the issue; on the other hand, the blood vessels, the whole vascular system in the distinguished *sippers* is latently, slowly irritated, and insidious arterio-sclerosis is the issue, particularly in the brain, as exemplified in Case I.

Regarding senility as a factor, in reference to the ages, 61 and 74 years, of my cases, I observe that considering their history, both must have certainly had arterio-sclerosis in the prime of their life, and it was *overlooked* or it was *concealed*. Had they not acquired arterio-sclerosis so early, they were men to live a long natural life, as I believe that arterio-sclerosis causes premature senility more than senility does cause arterio-sclerosis, and that man dies before his time because arterio-sclerosis is omnipresent accompanying our struggle for life. Thus, in many it commenced since boyhood. No wonder it is stated that in all post-mortem examinations, after the age of 50, arterio-sclerosis is found, and very often found only

then at the necropsy table. Indeed, all the organs, all the viscera are liable to be affected, one after the other, or simultaneously—brain, aorta, heart, kidney, liver, spleen, stomach, medulla, because that general degenerative process affects the whole vascular system. It is at first a general disease; then it localizes here or there, in a “*locus minoris resistentiæ*,” or, as Duplex says, “by a predisposition of that organ to develop sclerotic changes, or by direct or specific action upon that organ of the morbigenic element.” Therefore, Fabre, of Marseilles, was right in saying: “There is no disease more protean than arteritis.” It manifests itself under a variety of events: Cerebral hæmorrhage, as in Case I; softening of the brain, arterial cardiopathy, as in Case II; interstitial nephritis, hepatic cirrhosis, gangrene of the extremities, Reynaud’s disease, scleroderma. Visceral sclerosis is not always confined to one organ. Sclerosis affects simultaneously the heart and the kidney, the heart and the liver, the heart and the lung, the heart and the brain, the medulla and the aorta. From these associated scleroses, what should we infer? Take for instance the cardio-renal sclerosis. Is it possible to explain this frequent association by mechanical theories and admit, nowadays, *that in all cases* the heart is hypertrophied as a secondary event, a sort of “echo” or dependence of the disease of the kidney or *vice versa*. No, indeed. These morbid associations and relations, such as the cardio-renal or reno-cardiac, are better accounted for by the contemporary arterial theory, as localizations of a same general degenerative process of the vascular system—in short by arterio-sclerosis.

I will not stop, for want of time, to remind you of the mechanical theories of Rayer, Bamberger, Reinhardt. The views of Dickinson, Grainger-Stewart, Bright himself, and Traube, you all know. I rather lay stress on the origin and growth of the arterial theory, which this medical generation admits, with a view of insisting on small details of priority.

The blood vessels were *first* taken into consideration regarding hypertrophy of the heart and Bright’s disease, in 1857, when Kirkes said that in the atheromatous blood vessels resided the cause of the destruction and of this clinical syndrome. In 1871, Lancereaux said: “Properly speaking, there is

no disease of the kidney, the alteration of this organ being a manifestation of a general arterial disease," and he called interstitial nephritis "*arterial nephritis*." In 1872 only, Gull and Sutton, who are generally thought to be the starters of the arterial theory, believed that the obstruction existed not alone in the kidney, but in all the capillaries which present a peculiar change (hyaline degeneration) that diminished the elasticity; arterio-capillary fibrosis, found between the tubercles around malpighian bodies and in the walls of the minute arteries. They at once certainly struck the truth also. Later on Johnson said it was the muscular coat of the arteries that was hypertrophied; Gordon for the first time mentions as a factor high arterial tension.

In 1879, Professor Michel Peter, repeating Lancereaux's words, expressed his opinion categorically in the following: "It is because there exists a generalized endarteritis, that there exists renal endarteritis, that is interstitial nephritis. In 1880, Debove and Letulle proved that sclerous nephritis and myocarditis were corollaries of a general fibrous diathesis; that the heart undergoes the same alterations affecting the arteries in general; that sclerosis in the heart invades more particularly the pillars of the left ventricle and spreads from there to the right heart, a fact which destroys Traube's mechanical theory. Again, Debove and Letulle proved that hypertrophy of the heart was not caused by the necessity of overcoming an obstruction located in the cavity of the cardio-vascular system as in valvular cardiopathy, or an obstruction located in the kidney, as Traube thought. No, indeed. Hypertrophy of the heart was caused by an obstruction located in the walls of the heart itself; in other words, it was due to arterial sclerosis of the myocardium. Moreover, considering that in the cardio-renal syndrome the heart may be the first organ affected, they proved that the heart or the kidney may be affected independently of each other, and if they are affected together, it is under the same influence of one general process, a general vascular disease.

These general observations are applicable not only to the cardio-renal pathology, but they are applicable to other organs and other diseases. Indeed, to arterio-sclerosis are due cere-



bral, retinal, nasal, pulmonary, gastric hæmorrhages, associated with interstitial nephritis. So are the miliary aneurisms of Lionville, the gangrene of the extremities, occurring in nephritis, interstitial gastritis of Thomayer, hepatic cirrhosis (26 times in 30 caused by arteritis says Hansfield Jones). So are interstitial pneumonia and scleroderma. Again, arterio-sclerosis spreads its broad reach to the nervous centres. The pathology of the medullary diseases, usually so obscure, is rapidly brought to light and develops in that light.

“Sclerous endarteritis of the medulla,” says Demange, “causes lesions of two orders: diffuse sclerosis and miliary hæmorrhagic foci.” In reference to my Case II, I will observe that more particularly in cardiopathy, arterio-sclerosis takes a prominent place. In 1870, Desnos and Huchard, investigating the cause of sudden death in smallpox, and Hayem investigating the cause of sudden death in typhoid, have *all three* remarked that it was due to a degenerated myocardium from “endarteritis” of its vessels. From that time Huchard continued his researches in that line, studied heart and vascular diseases, that is for twenty-three years, and he now bases a classification of these diseases on 400 clinical observations and 150 autopsies. He classifies heart diseases in two groups: the *valvular cardiopathies*, originating from rheumatism, most ordinarily; and the *vascular or arterial cardiopathies*, originating from the general process that effects primarily the vascular system.

Sclerosis localizes in the heart on the aorta alone, on the valves, on the coronaries with or without involving the myocardium and the connective tissue.

What is the clinical character of these arterial cardiopathies?

1. Their sudden and brutal onset, a sudden asystole, sudden dilation. Thus, as in Case II, they commence suddenly, in the way that simple *valvular* diseases slowly terminate.

2. Their usual associations with uræmia. Of course, these cardiopathies present various clinical types, but I can not stop to consider these in detail. I will state that they chiefly present *dyspnœa*, *pain* as in angina pectoris, *arhythmia*, *tachycardia* and *brachycardia*.

But, what is capital, is to know that these cardiopathies have been preceded by a long period of latent vascular disease.

They indeed have three periods: (1) A vascular period characterized by hypertension, dilatation of the aorta. (2) A cardio-vascular period characterized by endarteritis of the blood vessels of the periphery and of the heart, and again characterized by cardiac hypertension. (3) A mitro-arterial period characterized by cardiac dilatation, a tendency to hyposystole and arterial hypotension.

It is in the initial period, preceding the localization of sclerosis in the heart that we should detect and treat arterio sclerosis. I will observe again that that period is latent, that arterio sclerosis is disguised. For instance, the GASTRIC PAINS in Case II, pains that existed since 1860. They were certainly due to arterio-sclerosis of the *celiac trunk*, as angina pectoris is VERY OFTEN due to arterio-sclerosis of the coronaries. I noted *ten (10)* similar cases in *literature*, in which cardio-vascular disease and gastric pains were connected, associated with and related to the same sclerous process, in which ten cases arterio-sclerosis manifested itself primarily by *gastric pains only*; until one day, the heart also being affected, upon the occasion of the usual gastric pains sudden death occurs as in my Case II. In these ten cases, cited by Germain Sée, eight died suddenly, unexpectedly.

So, the all-important period is the initial arterial period of arterial disease. That is the one we should discover.

Remember that it is latent, insidious. In all suspicious cases, where, for instance, gastric pains occur, do not neglect to carefully search for arterio-sclerosis, and to auscultate the heart, which detail, men as Leared and Todd confessed having neglected, so predominant were the gastric symptoms.

How can arterio-sclerosis be detected? The following arrangement of symptoms is given by Huchard in his remarkable treatise:

*Facies*.—Like aortic facies, face becomes suddenly pale.

*General Aspect*.—Vertigo, tendency to faint, cold extremities, attacks of physical and mental prostration, cramps in the legs, lumbago.

*Respiration.*—Painful dyspnœa after walking and moving, paroxysmal at night.

*Digestion.*—Causing palpitations and arhythmia.

*Urination.*—Attacks of *polyuria*.

*Circulation.*—Examination of the pulse. It is sometimes hard, concentrated, tight, stiff like a tight rope; at other times, full, persisting as if the arterial diastole was prolonged; the artery, full to excess, hardly collapses during the pause of the heart. Frequently the left radial pulse is permanently smaller than the right. Pulse may be accelerated without fever temperature.

Examination of the arteries bearing on—

1. The arteries in general.
2. The capillaries.
3. The aorta.
4. The subclavians.

*Arteries in General.*—They beat and throb particularly in the neck, the epigastric region and the head, causing pain.

*Capillaries.*—They are in a permanent or intermittent spasm, giving rise to hypertension, which can be detected without instruments, sphygmographs or sphygmomanometer.

*Aorta Artery.*—The area of normal aorta dullness extends on the sternum, between the second and third intercostal space for four centimeters in the male, three centimeters in the female. The ascending portion, normally, does not extend beyond the right border of the sternum, so practically a dullness beyond that line indicates aortic dilatation.

*Subclavian Arteries.*—They are elevated. This symptom, Huchard says, is very important. It can better be detected on observing the right subclavian artery, which is more anterior, more superficial than the left. Lowering of the shoulder, with moving it backward, helps the detection by decreasing the supra-clavicular hollow. Thus in arterio-sclerosis, the right subclavian is seen beating in its same normal horizontal direction, but one or two centimeters higher than its normal position; that is, instead of being below the posterior belly of the omohyoid muscle, it is above it. It can not be felt by the finger, searching for it where it is normally situated behind the scalenus anticus tubercle and outside the sterno-cleido-mastoid muscle.

Now, in order to distinguish this beating from the carotid beating, look for the subclavian outside of the scalenus anticus. To distinguish it from the jugular vein's beating, look for the subclavian above the posterior belly of the omohyoid, and remember that the subclavian beating is horizontal, whilst the jugular beating is vertical.

*Examination of the Heart.*—Impulsive, præcordial shock, extending over a large area. Cardiac hypertrophy, galloping bruit, at times detected by palpation better than by auscultation, Dry and parchment-like systolic and diastolic sounds in the second and third intercostal space, right side (aortic focus).

Diastolic sound is loud, metallic-like and echoing. Huchard insists upon this diastolic-aortic sound, the beating of the arteries in the neck, the elevation of the subclavians and the increased area of aortic dullness, signs of incipient dilatation of the aorta, and this latter aortic dilatation is *one* of the most constant signs, says he, of incipient arterio-sclerosis.

Again I will observe in reference to Case I that we can detect the second period of arterio sclerosis by numerous *meiopragias* (from Greek *meio* to diminish and *prasso* to accomplish). That means: *diminished function*. The cerebral *meiopragias* as in Case I is characterized by “cephalalgia, somnolence, transient palsies, temporary aphasia and light confusion in the use of words,” but more particularly in cases where exists *syphilis*. The cardiac *meiopragia* as in case 2 is characterized by dyspnœa pain, etc.

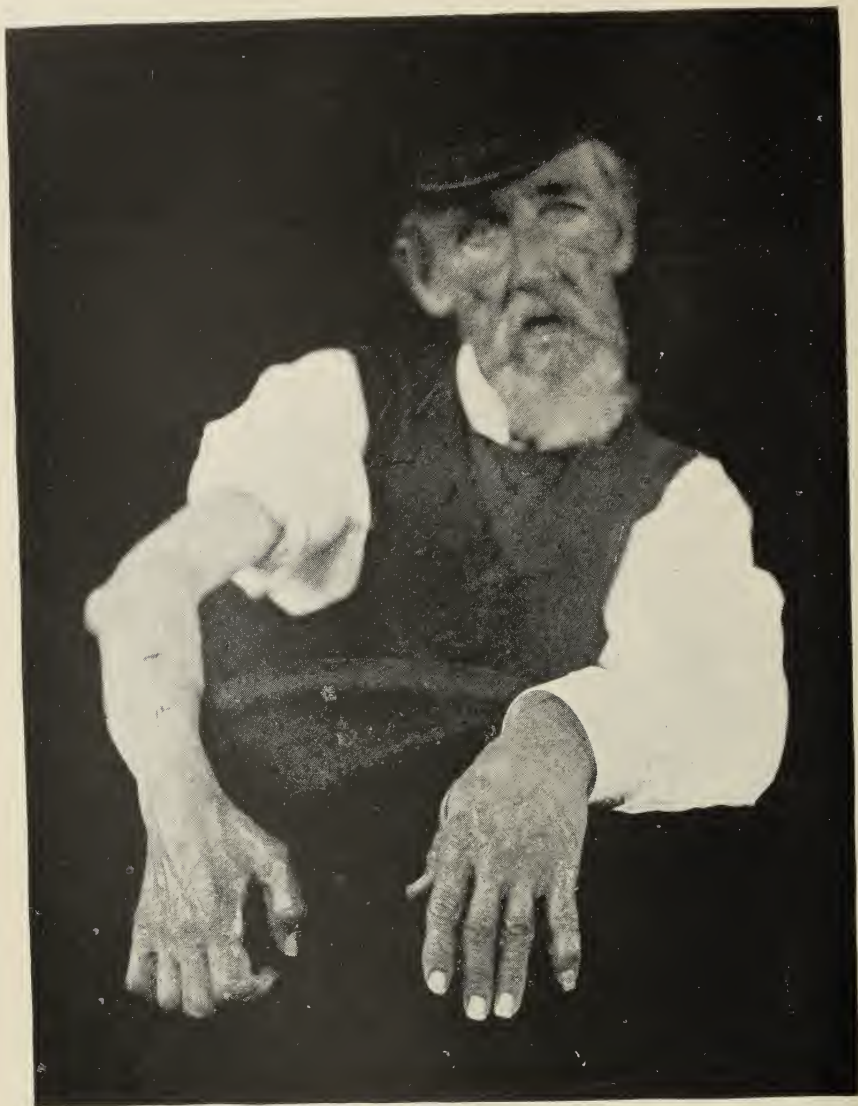
In reference to sudden death, occurring in my two cases, unexpectedly, I remind you that *prognosis* in arterio-sclerosis is grave. Algot-Key-Aberg (Annual 1889) states that 74 per cent. of all cases of sudden death, occurring after the age of 14, were due to “endarteritis-chronica-deformans,” that is *arterio-sclerosis* or one of its sequelæ—paralysis of the heart, rupture of the aorta and intra-cranial hæmorrhage.

But from all that I have summarily observed on this broad question the most important deduction bears on *treatment*.

That practical deduction is expressed in these few words: FOR ARTERIAL DISEASE, ARTERIAL TREATMENT. *En resumé*, all the wide-spread and various forms of arterial disease, as distant as they may be, are all to be gathered in one group,

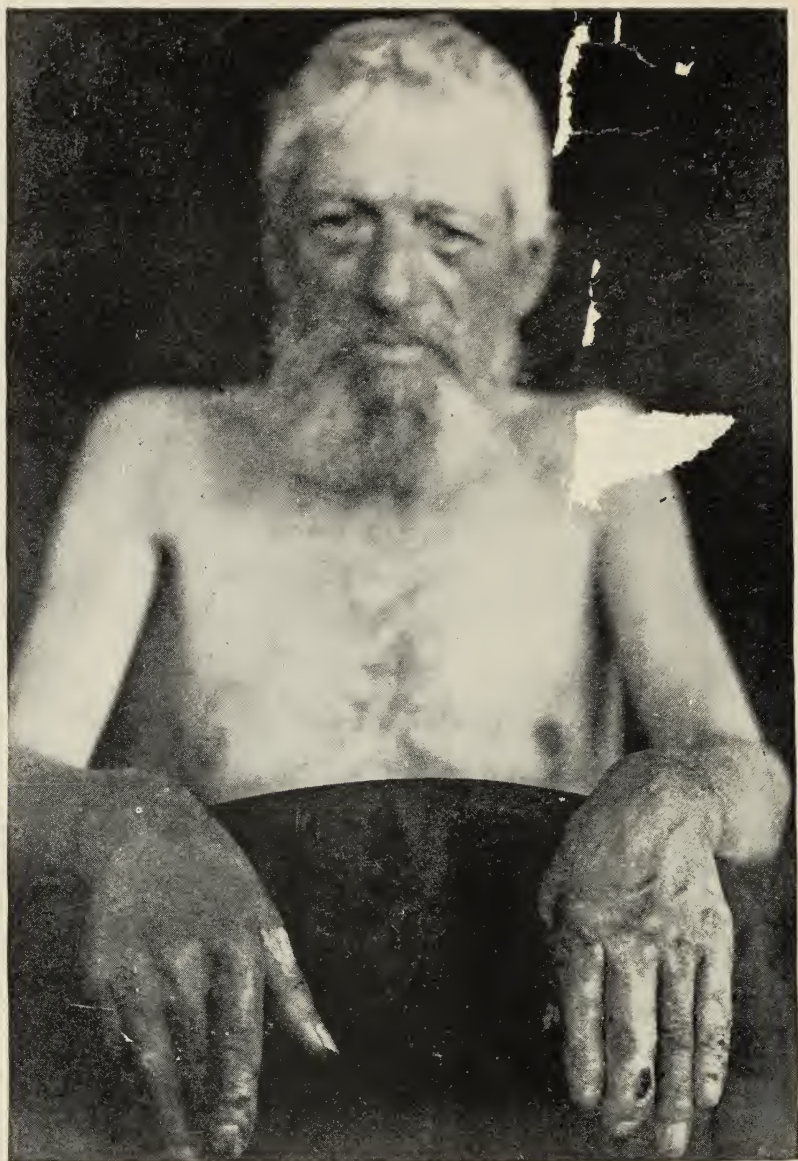






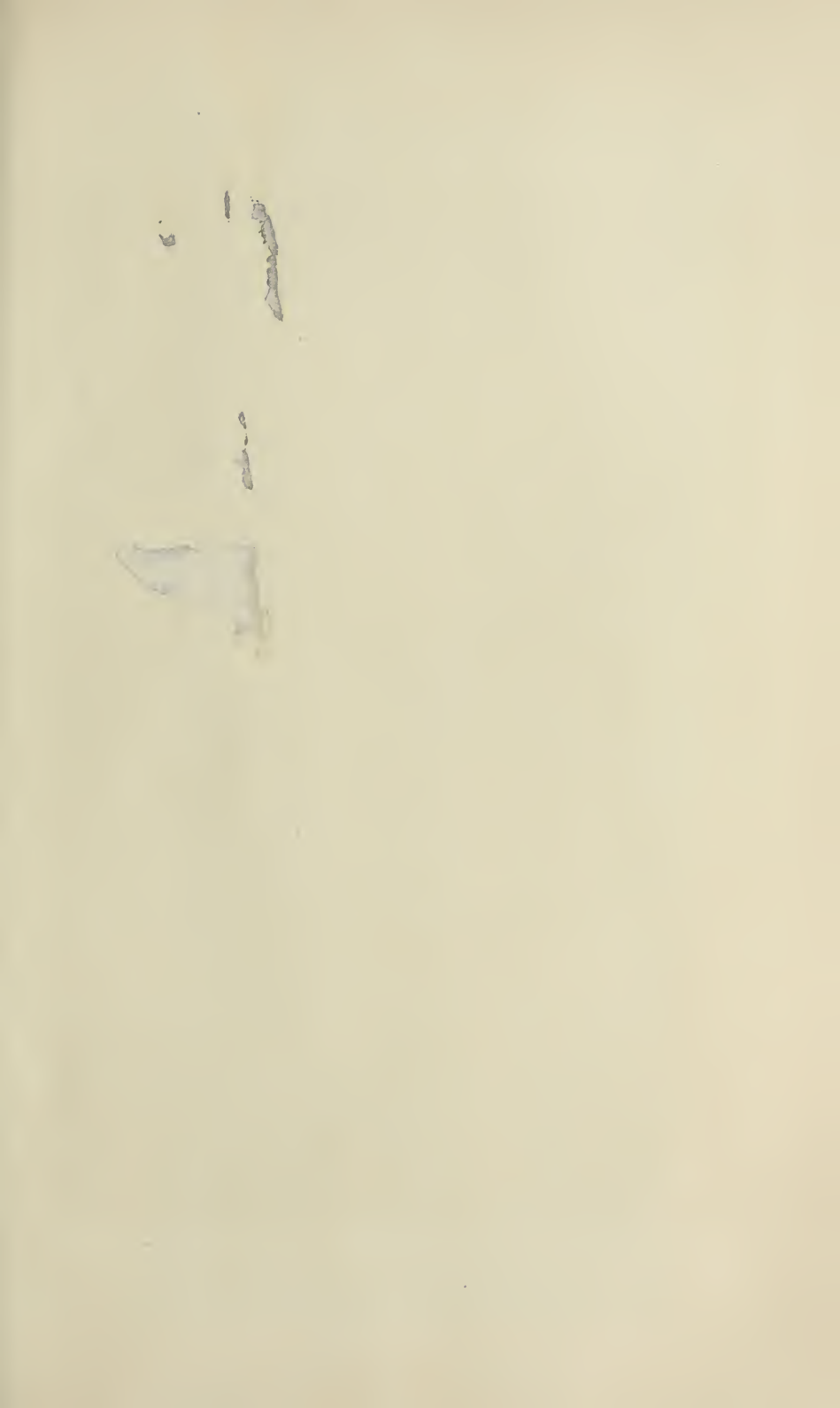
SYRINGOMYELIA.—Case I.

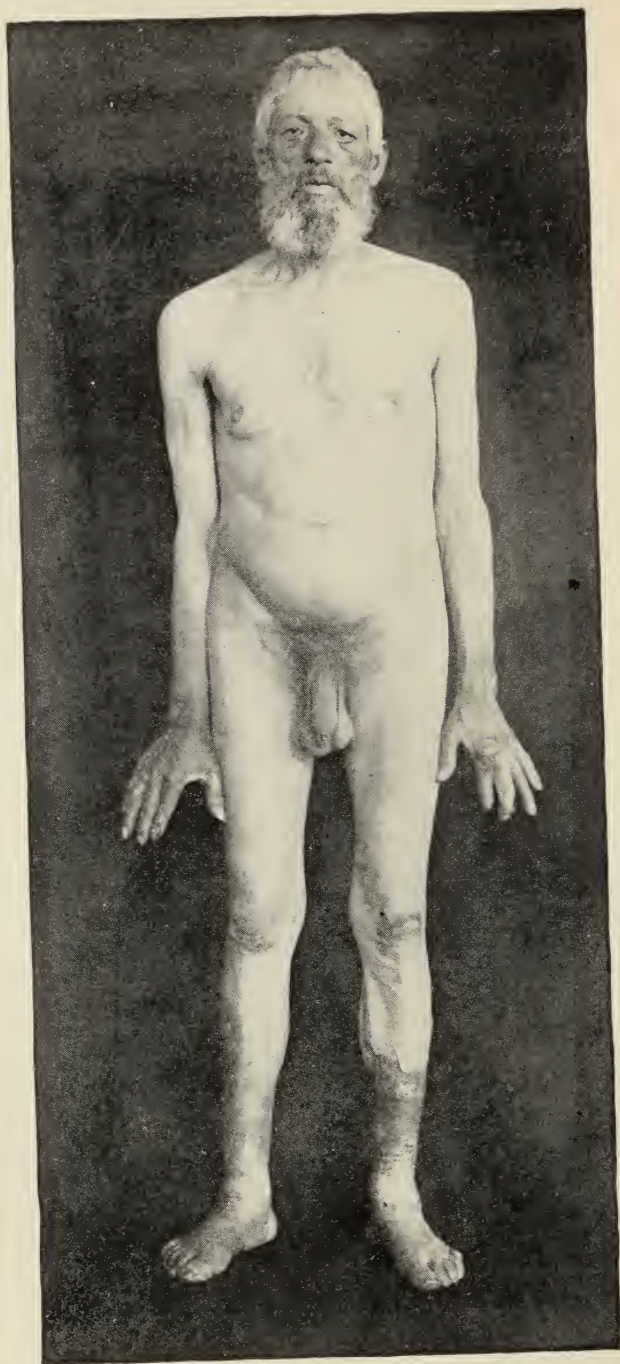




SYRINGOMYELIA. Case II.







SYRINGOMYELIA.—Case II.

*therapeutically as well as pathologically.* They all have to be treated with aiming at the fundamental condition, *arterial sclerosis*. Start as early as you possibly can, and be persistent in your treatment, and you will score a “*success*,” says Huchard, sometimes when least expected, for he affirms that coronaritis-angina pectoris is *curable*.

Here is the treatment of arterial disease: *First and above all, hygienic measures.* Remove all causes of arterial hypertension, and this is why I laid stress on these causes. I will not repeat them. In a word it means *rest*, in all its acceptation with a rigid milk diet, and next it means proper *recreation*.

In reference to this, as we are doubly interested in arterio-sclerosis for others and ourselves, busy doctors, I can not refrain from citing the following:

One of London's most successful physicians, a few months before his death, in conversation with a friend, said:

“You see me, little over 40 years of age, in full practice, my rooms are full and I am making several thousand pounds per annum; all this I have done by sheer perseverance, increasing hard work and no holidays. I have fatal disease of the heart, the result of anxiety and hard work. I know I can not live many months and my parting advice to you is: Never mind at what loss, take your six weeks holiday. It may delay your success, but it will ensure its development; otherwise you will find yourself, at my age, a prosperous practitioner, but a dying man.”

To what profession or business will this not apply, gentlemen?

Now, about the drugs.

Huchard says: Beware of digitaline. In fact, digitalis as a rule is hard to manage. Beware of ergot. In angina pectoris, in interstitial nephritis, both can produce cerebral hæmorrhage, cerebral emboli and attacks of stenocardia.

I will add, after my own experience, beware of morphine! Like the *two drugs above*, it may harm degenerated vessels and the myocardium. When *pain* occurs, do not rush in with your hypodermic of morphine. Think of arterio-sclerosis, and with nitrite of amyl, nitro-glycerine, the two rapid vaso-dilators,

you may arrest a gastric pain, for instance, often due merely to excessive vascular contraction and ischæmia, as pain in angina pectoris (often due to arterio-sclerosis of the coronaries) is often relieved by one of these vaso-dilator remedies alone.

At any rate, try to remove the pain by some other way than morphine, and treat the disease, which is at the bottom, the arterial cause.

For this, give *iodide of sodium* 15 or 20 centigr. in a cup of milk for twenty days in the month, during, at least, one year. During the ten days of interruption in the iodide medication give 2 or 3 drops sol.  $\frac{1}{100}$  of nitro-glycerine morning and evening.

But if arterial sclerosis threatens to localize in the heart, with a sharp cardiac second sound, or any where else, *in fact*, give 1, 2 and even 3 grammes of iodide a day. Of course, later on, as the myocardium may suffer from this prolonged use of iodide, then give with it sparteine daily, four or six pills containing each 10 centigr. of iodide and 2 or 3 centigr. of spartein sulphate and give nitro-glycerine.

Now, if hypertension persists and if in the course of treatment headache, vertigo, uncertain gait, palsies *occur*, resort at once to the old time "lancette" and bleed your patient, little at a time but often, cautiously guiding yourself on his pulse.

Last Monday, following Huchard's and Bramwell's advice, I removed from the mediancephalic of one of my arterio-sclerous patients, a notary, no more than six large spoons of blood.

Although very small, this blood letting removed a stubborn headache and vertigo, and an hour after, the patient, with his left arm well bandaged, could walk without uncertainty.

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#### THE PROGRESS OF OBSTETRICS.\*

By P. MICHINARD, M. D.

*Mr. President*—Agreeably to the request of the secretary to have prepared for this meeting a paper on a subject that might be of interest to the members of the society, and supposing that an article discussing the present state of that branch of medicine whose art we are often called upon to practise, I

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\* Read before the Orleans Parish Medical Society, January 28, 1893.



beg to present this, which is a report on the progress of obstetrics:

That obstetrics has advanced it must be admitted. It is not, as pretended by some writers, in the same position it held a half century ago, with very few prospects of advancement. The practice of improved obstetrics (if you will permit this expression) has, within the past few years, saved many mothers and many infants. Not many years ago, crushing of the foetal skull was not an infrequent operation; to-day it is seldom heard of. Children were killed then, where to-day they are permitted to live.

If this were the only advance made by obstetrics it would be enough to entitle to profound gratitude those workers who brought about this change.

It is my purpose in this paper to give only an outline of the various advanced steps, as discussion of each would occupy too much time. The chief advance made in midwifery—that advance to which nearly all the other improvements owe success—is antisepsis. It must be, and cheerfully is granted, that this step is adopted from surgery.

The proper use of antiseptics before and directly after labor has had wonderful results. The chief antiseptics now used are carbolic acid, corrosive sublimate and lysol. The general plan now adopted at the principal hospitals (and which should, as much as possible, be followed in domiciliary practice) is as follows: The patient is given a full warm water bath; a large enema is then administered, the thighs, abdomen and pudenda are scrubbed with soap and water, then thoroughly washed with a 1-1000 aqueous solution of corrosive sublimate, a 2 per cent. solution of carbolic acid or a 1 per cent. solution of lysol. Lysol is obtained from coal tar, is five times stronger than carbolic acid and one-eighth as dangerous. The vagina is well douched with either a 2 per cent. solution of carbolic acid, 1-2000 of bichloride or 1 per cent. lysol.

The attendant pares and cleans his nails with knife, then scrubs them and his hands, first with soap and water; rinses them in plain water and then rescrubs them in either of the solutions mentioned. Very few vaginal examinations are made. Directly after labor another antiseptic vaginal douche is given.

A napkin, or oakum pad, soaked in the same antiseptic solution is then applied to the vulva. The pads are changed several times a day, and their use continued for about a week. No other vaginal douche is given. Physicians are learning more and more that repeated vaginal douches are not only useless, but dangerous. In this Professor Lusk, although in favor of the douche, is forced to acknowledge that "in hospital practice it has invariably increased the morbidity and mortality rate," and "that in spite of the addition of carbolic acid or corrosive sublimate, there is statistical evidence that the vaginal douche augments the chances of infection." It must, however, be understood that these statements apply to uncomplicated cases. Where there is an offensive discharge from the uterus the intra-uterine and vaginal washings are used. But it must be observed that the internal os is very patulous.

By way of illustrating the beneficial effects of antiseptics and obstetrics, allow me to read the results of some public institutions. In the January number of the *American Journal of Obstetrics* is the following report by Dr. H. J. Garrigues: "The beneficial results of antiseptic methods were shown by the statistics of the New York Maternity Hospital. In the 'Maternity' the present antiseptic measures were introduced in 1883. During the nine years prior to that time the maternal mortality had been 146 in 3504 deliveries. In 3170 deliveries since then there had been only 30 deaths."

In 1892, the matron informs me, that at the Emergency Hospital of New York, there were 173 confinements without a case of fever.

At our Charity Hospital there were (in 1892) 148 confinements, with 2 deaths from sepsis.\*

In reply to inquiries from me, I received a letter from Dr. Joseph Price, of Philadelphia, in which he says that at the Preston Retreat, of which he has charge, he has had 1200 consecutive cases of confinement without either septic fever or deaths. At this hospital the patient is removed to another room three days after accouchement. No emergency cases are admitted.

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\* The Charity Hospital of New Orleans receives all cases presenting themselves, some of which after having been manipulated by filthy midwives.

The use of the antiseptic pad on the vulva is based on the idea, as advanced by Ott, Thomen and other investigators, that in the lochia of many healthy women there are found bacteria, and that these bacteria coming in contact with the micro-organisms in the air at the fourchette on the perineum will develop fever.

The remarkable results reported by the hospitals mentioned in this paper are not and probably can not be obtained in private practice. But certainly by proper regard to antiseptics at every house to which we are called the number of cases of fever will be diminished. Many physicians and midwives have only a crude idea of the use of carbolic acid as an antiseptic. How often have I seen some, when preparing carbolized water for vaginal douche, mix (or rather guess) about one teaspoonful of acid to a wash basin of water. With them there seemed to be an idea that all that was requisite was the odor of the acid.

A 2 per cent. solution of carbolic acid means about  $1\frac{1}{4}$  oz. of the acid to a gallon of water, and not a teaspoonful. Less than that proportion will be useless.

I will close the consideration of this question with an appropriate clipping from the minutes of the October, 1892, meeting of the New York Academy of Medicine. "Dr. Garrigues offered the following resolution, which was adopted by the Academy: 'Whereas, experience, both in this country and abroad, shows that by strict antiseptic measures the maternal mortality in lying-in hospitals may be reduced to a few per thousand.

" 'Whereas, death due to childbirth or abortion is yet common in private practice.

" 'Resolved, That, in the opinion of the section on obstetrics and gynecology of the New York Academy of Medicine, it is the duty of every physician practising midwifery to surround such cases in private practice with the same safeguards that are being used in hospitals.' "—*Amer. Jour. Obs.*

*Puerperal Septicæmia.*—The next step in improvement is an approach to a clear understanding of the causes and nature of *puerperal septicæmia*. I shall not burden you with a review of the many theories advanced as to its causes and

nature, but will merely mention that of Doléris which is generally accepted. According to Doléris bacilli or rods and micrococci, or monococci, diplococci, streptococci and staphylococci are the micro-organisms generally found in puerperal fever. But the prevailing opinion is that the streptococci are the most important agents in occasioning contagion. The bacilli attack the dead tissue in the uterine cavity. In the product of putrefaction thus produced are ptomaines which get into the circulation and give rise to general systemic poisoning. In Prof. Lusk's recent work is the following: "The instinct which prompts the employment of the disinfectant douche in cases where there is a striking lochial discharge is a sound one, but it is a common clinical observation that in many cases the symptoms continue thereafter unabated, and that, likewise, in severe and even fatal forms of puerperal fever the lochiæ are free from odor. True infective puerperal fever has no direct connection with putrefactive organisms. It is the product of the streptococci, which, not only are in themselves highly poisonous, but possess the faculty of invading living tissue. But the putrefactive and the infective germs are generally present together. It is surmised that when they are thus associated, the putrid endometritis excited by the one furnishes a congenial soil which favors the multiplication of the other."

The treatment generally adopted is to clean the uterine cavity, wash with antiseptics and administer quinine and salol.

*Axis Traction Forceps.*—We are learning to better understand the pelvic curve, and to appreciate the great value of traction being made in the direction of the pelvic canal. As a result the curve of the forceps' blade has undergone alteration, and attachments have been fixed to such forceps as will insure great traction in the proper direction. The use of the axis-traction forceps has lessened the necessity of operations on the foetal skull. In this opinion join such men as Prof. Lusk, of New York; Dr. Jos. Price, of Philadelphia; Prof. E. S. Lewis and Prof. A. B. Miles, both of this city. Dr. Price, who uses no other forceps, informed me the other day that he had not performed craniotomy in ten years.

There have been made several axis-traction forceps and



attachments, but the most reliable appears to be Tarnier's. I here show you Tarnier's forceps, an attachment to be fixed to the Elliott forceps, invented by Dr. H. B. Wells, and one to be attached to the Hodge or Holt, the invention of Dr. Reynolds.

The next important advance is the improvement in the operation of symphyseotomy. The remarkable results now obtained are chiefly due to antisepsis and asepsis. First performed by Sigault, of France, in 1777, it soon fell into disrepute. Again and again it was brought forward only to drop back into disuse because of the great maternal mortality from septic infection. Since the advent of perfect asepsis the operation has been revived, and has afforded most brilliant results. Within the past six years there have been, so far as my knowledge goes, forty-five cases operated on with but one maternal death, and that woman is said to have been septic before the operation. Of the forty-five children five died, one dying seventy-two hours after birth. Where the axis-traction forceps is of no avail it is designed to step in between craniotomy and Cæsarean section—saving the child from destruction, and assisting the mother by a safer method of delivery. The operation consists in splitting the symphysis pubis, and has for its object an increase of the diameter of the pelvis by separating the pubic bones; for this not only increases the sacro-pubic diameter, but also the transverse and oblique. It is indicated in contracted pelvis, in some cases of hydrocephalus and in impacted face presentation. It is contra-indicated where the child is dead; where there is a rigid and undilatable os; in cancer of cervix; where there exists large bony tumors in the pelvis, and where the *conjugata vera* is less than two and three-quarter inches.

The following directions for performing the operation are those advised by Dr. Caruso and Prof. Morissani, and are taken bodily from an article by Dr. Robert P. Harris, published in the October, 1892, number of the *American Journal of Obstetrics*:

“The armamentarium required is very simple—viz.: a scalpel; Galbiati's probe-pointed, sickle-shaped bistoury,” which I now show you; “some hemostatic forceps, a needle-holder and needles, a metallic female catheter, ligature silk,

gauze, and cotton. These having been sterilized and arranged, place the parturient woman on her back at the side of the bed, with her knees drawn up and separated; shave the mons veneris and labia majora, and disinfect the superpubic region, the vulva, the perineum, and the vulvo-vaginal canal. Examine the depth, thickness and direction of the symphysis and search out the fossa in its superior edge which marks the point of union of the two pubic bones; then examine the inferior margin, and the anterior and posterior faces of the pubes. Introduce the catheter, and give it into the hand of an assistant, that he may depress the urethra from the pubic arch and at the same time carry it to the right side to save it from injury, Make a vertical incision through the skin and fat above the pubes, about  $2\frac{3}{4}$  to 3 inches in length, ending about three-quarters of an inch above the symphysis, cutting the tissues gently, and pressing in a line toward the left of the clitoris so as not to injure it. Detach for a short space the recti muscles from their attachment to the two ossa pubes; introduce the left index finger into the opening and separate the retro-pubic tissue. Then apply the palmar face of the finger against the posterior face of the symphysis, and hooking with it the inferior margin of the articulation, while the assistant attends to the catheter as stated. The operator then introduces the Galbiati knife and hooks the blade around the articulation, cutting the interosseous ligament and cartilage from within outward, and below upward. When the section has been completed it will be known by a creaking sensation and a separation of the bones from  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches.

“After this step cover the wound with the gauze dipped in a bichloride solution of 1-4000, and attend to the delivery of the foetus, having at the same time the separation of the innominate antagonized by pressure from the hands of assistants. During the passage of the head spray the vagina and ascertain the amount of pubic separation; and when the placenta has been delivered, introduce six or eight interrupted silk sutures into the edges of the wound, dress it with sublimated cotton 1-2000, and bandage the pelvis and lower extremities.” The patient usually walks about on the twentieth day.

*Cæsarean Section.*—Obstetrics has made great progress in

this direction. To the intelligence and perseverance of Säger, of Europe, and Harris, of this country, is due the return of Cæsarean section to the fold of legitimate surgery. The improvement consists in operating early, in completely closing the uterine wound with sutures, and in thorough asepsis. Since this method has come to be adopted there is seldom recourse to the mutilating Porro's operation. In the hands of experts the results are flattering—a mortality of about 8 per cent., although two European operators have done as well as 6 per cent.

For more information concerning this operation, its performance, etc., you are referred to the last edition of Lusk's *Work on Obstetrics*.

*Crédé Method of Expressing the Placenta.*—The profession is learning that there is no necessity of waiting hours for the expulsion of the placenta; and that there is a safer way of removing that body than by intra-uterine manipulation. Recourse is now had to Crédé's method of expressing the placenta out of the uterus, and it is seldom that failure attends its use.

Crédé instructs us to wait 20 minutes after delivery for the expulsion of the after-birth. Should it not occur then he directs that the uterus be grasped by the hand, the thumb placed in front and the fingers to the rear of the organ.

Gentle pressure is first applied, then when the uterus contracts the grasp is tightened and pressure is made on the fundus. This should be repeated several times. The grasp should be tightened only when the uterine contractions are strongest.

In concluding this report I beg to hazard that after considering the statistics I have offered, you will agree with me that obstetrics has progressed.

## Proceedings of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

#### THE NECESSITY FOR THE EARLY RECOGNITION AND TREATMENT OF SUPPURATIVE DISEASES OF THE TYMPANUM, AND THEIR RELATION TO CEREBRAL COMPLICATIONS.

BY S. MACCUEEN SMITH, M. D.,

Lecturer on Otology and Chief of Aural Clinic, Jefferson Medical College of Philadelphia;  
Surgeon in charge of the Ear and Throat Department of the Germantown  
Hospital, Philadelphia, etc.

In bringing the subject of this paper before you this evening it is with the hope that one of the many urgent subjects of otology may be so clearly presented, in connection with the discussion which follows, as to deeply impress the busy practitioner with the importance of the early recognition and treatment of aural diseases in general.

We think it is an admitted fact that of all human ailments diseases of the ear have been the most neglected.

From the early days of medicine to the present time aural diseases have largely fallen into the hands of cunning quacks, who, through their hocus-pocus methods, have mystified the always gullible public. In fact, the science of otology has been reduced almost to the primitive teachings of the dark ages, when it was declared by the expounders of ancient wisdom that urine of the male and female, respectively, would cure ear diseases in the opposite sex, and that inflammatory conditions of the ear might be alleviated by one of their pharmaceutical specialties, composed of "the delicate admixture of the excrement of pigeons and the ashes of horses' dung, to which might be added finely pulverized black pepper."

Judging from the statements of patients, there still exists among some of the profession a belief, which is largely shared by the laity, that something mysterious or magical surrounds the diseases of the ear and their treatment. With this opinion prevalent we can not express surprise at many of the unfortunate sufferers volunteering the information that they had been advised to "let well enough alone; it is bad to meddle with the ears; do not tamper; never heal a running ear or it will go to the brain and kill you."

It is also of daily occurrence to find that the syringe has been roughly used to throw a stream of water on an *exposed drumhead*, or that the popular but uncleanly habit has been



suggested and followed of dropping grease and other fungus-generating fluids into the ears.

This evident lack of information is, of course, due to the fact that, in former years, in many of our medical colleges otology had received only the minimum consideration, while in some institutions this most important branch of medicine had not even been mentioned in their curriculum. So long as students are not required to pass an examination on aural or other diseases it will be found that their knowledge of the same is almost *nil*.

It is indeed gratifying to be able to note the increasing interest and demand for special instruction on the ear and its diseases. To the recent graduate in medicine a knowledge of this branch now becomes imperative, as many of the State examining boards require applicants to pass an examination on otology.

From a medico-legal standpoint the subject is of the utmost importance, for certainly the time is not far distant when it will be regarded as illegal for one so to neglect a suppurative disease of the tympanum (either acute or chronic) that fatal cerebral complications result therefrom. Brain abscess and meningitis, as the result of ear diseases, are in the great majority of cases preventable. It therefore becomes the imperative duty of every practitioner of medicine to properly diagnose and treat such cases. This duty is especially important to the physician of general practice, inasmuch as he is usually the first to be consulted, and his direction and care of the patient at that critical time is often of vital importance.

In order to give an idea of the importance of ear diseases in their relation to general medicine and the responsibility and duty of the profession at large to the public, it will be interesting to note that it has been estimated by various authors that from 43 to 76 per cent. of all brain abscesses arise, either directly or indirectly, from suppurative disease of the middle ear. To this I should like to add that the same figures would probably not exaggerate the large number of meningitis and pyæmia which, on account of their doubtful etiology, are termed and accepted as "obscure." Barker, as quoted by Keen and White, estimates that not far from 2000 deaths, caused by diseases of the ear, annually occur in Great Britain, with a population a little more than one-half that of the United States.

These are, indeed, impressive figures, and are especially deserving of serious consideration, from the fact that there are annually dying in the United States probably 4000 of her inhabitants from brain abscess, the direct cause of which is some

pathological change in the ear. Our belief is that should these cases receive early recognition and proper care the mortality, at least, would be greatly reduced, and the fatal complications in most cases be prevented.

As a rule, an acute inflammation of the tympanum is painful in the extreme; yet it must not be forgotten that we will at times find a case where the membrana tympani will rupture with the consequent flow of discharge, which will be the first and only symptom to attract the patient's attention. These cases, however, yield promptly to treatment, unless dependent upon some enfeebled condition of the constitution. On account of the symptoms not being urgent they attract but little or no attention, and, therefore, are allowed to form a good foundation for a chronic purulent suppuration with all its possible serious consequences.

An acute suppurative otitis mediæ is usually the result of the acute non-suppurative variety (commonly known as ear-ache) the symptoms of which briefly are, a sense of fulness in the head accompanied by more or less tinnitus and so-called "neuralgia." In my experience these symptoms precede the real pain several hours, or in some cases it may be several days. The pain, which is very severe, generally occurs at night, and is referred to the ear and along the Eustachian tube. In most cases considerable fever is present, and marked impairment of hearing. As the pus accumulates the bulging outward of the membrana tympani correspondingly increases, and the tension resulting therefrom intensifies the pain almost beyond endurance. It is in this state or stage of the disease that immediate relief is so earnestly demanded for the present and future welfare of the unfortunate sufferer.

Should the patient have the good fortune to have the distended drum promptly punctured in order to promote the free escape of pus, and this followed by gentle inflation through the Eustachian tube, together with general antiseptic care and the use of leeches, the hearing will in most instances be quickly recovered, the discharge will cease, and all the functions of the organ will soon be re-established.

If, however, the pus is promptly evacuated the patient is in imminent danger of one or more of the serious consequences that follow such neglect. Should the drum be so thickened and bound down by adhesions as to enable it to resist the pressure, as is sometimes the case, the pus will then, by one of the several means of communication, produce a septic inflammation of the brain or its coverings, which usually has the result of a prompt fatal issue. Or the pus may communicate with the mastoid antrum, thence to the mastoid cells, thereby

subjecting the patient to all the serious, and oftentimes fatal, complications of such a condition.

Fortunately, however, these implicatons are not of frequent occurrence from acute suppurative otitis media, for, in neglected cases nature has wisely provided a drum that will usually rupture of its own accord when the pressure from accumulated pus reaches the dangerous point; or, as it occasionally does, the pus finds an exit through the Eustachian tube in the throat. This is particularly the case in children, because the calibre of the tube is proportionately much larger in early life.

Brain and mastoid implications arising from a suppurative inflammation of the ear are in nearly all cases a result of the chronic variety, although I have seen several fatal cases from the acute suppurative form. There is usually a history of chronic discharge, frequently even extending over many years. At times the "running" will cease, and the physician and patient (if he be under treatment) will congratulate themselves on the apparent success of their therapeutics, when quite unexpectedly the patient again applies for relief from a severe pain in the ear, caused either by exposure to cold or wet, or it may be from some trivial accident, such as a slight blow upon the ear or head.

Any patient suffering from a suppurative otitis media, be it of the continued or recurrent form, is in constant danger (either from exposure to cold or traumatism) of a fatal termination. "Many apparently unaccountable cases of fatal coma are explained in this way; an old cerebral abscess, which has already lasted weeks or months without giving rise to any definite symptoms, suddenly giving way and bursting into the ventricular or subarachnoid space." It is, therefore, a safe and wise rule, as well as duteous teaching, to regard every person with a discharging ear as being in such a condition that serious, or even fatal, complications may arise on the slightest provocation.

Recent bacteriological investigations demonstrate beyond question that the quantity and especially the quality of the discharge is an all-important factor in considering the prognosis of individual cases. The popular impression is that so long as a discharge is copious and devoid of fetor it is harmless, and of such little moment as to demand treatment only from a point of tidiness or inconvenience. This belief, notwithstanding its almost universal acceptance, is misleading and is calculated to cause in the future, as it has done in the past, much misfortune.

It is entirely true that in a freely "running ear" we have present the best possible condition to prevent brain complications, and yet we must not lose sight of the fact that a decrease



in the discharge, and especially if it should stop suddenly, must be viewed with some degree of alarm, inasmuch as this sudden or more gradual decrease in the flow is frequently caused by inspissated masses of mucus and pus collecting behind a wall of dried and hardened epithelium intermixed with pus, and entirely occluding the opening in the ruptured drum, consequently preventing the escape of discharge which continues to form until the accumulation causes much pressure, and the brain or mastoid complications may be the result.

Generally speaking, a discharge of pus without fetor is considered harmless, and, therefore, in most cases receives little or no notice, unless for cosmetic purposes. Although the number of observations on the pathology of the putrefactive changes within the ear have been limited and confined to the researches of only a few investigators, sufficient information is at present made known from the recent discoveries in microbiology to establish the fact that non-fetid pus from the ear contains large quantities of pathogenic cocci, and is, therefore, highly infectious and dangerous to life. In fetid pus it is true that cocci are also found, but they are of the diplococci variety, and the bacilli, which are also present, largely predominate.

Barker, who has given this subject much thought and study, writes as follows: "From his inoculations of animals with cultivations and pus emulsions Rohrer came to the conclusion that the various forms of bacilli found in the fetid secretions of the ear were not pathogenic but simply saprophytic, the animals inoculated with the bacilli either in the tympanic cavity, the auricular veins, or the peritoneum, being alive and well at the end of some months, little or no action having taken place locally. But of the pathogenic nature of the cocci there could be no doubt, from his experiments on animals typical septic diseases of various kinds being produced without fail. These observations appear to me to possess a special interest as regards the question of fetor from the ear. It has been commonly taught hitherto that a bad smell from the ear is an important factor in the prognosis of aural inflammations. My own observations, however, for a long time past have led me to question this conclusion very seriously, and to hold and teach that some of the most dangerous sequelæ of otitis media may be met with where the secretions from the tympanum are either nearly or quite odorless."

"If this be true, and I fully believe it to be so, the explanation is found in Rohrer's observations regarding the pathological cocci found alone in the non-fetid discharges, and the preponderance of merely saprophytic bacilli in the fetid. We must not, therefore, think the less seriously of a



discharge from the ear because it is odorless, but must endeavor to get rid of its exciting cause just as strenuously as if it were most offensive. This is only what we might expect from an experience of ordinary suppurating wounded surfaces in other parts, which in many cases give rise to serious or fatal septic complications without giving off any fetor."

Caries and necrosis are a frequent and serious complication of suppurative otitis, and are produced by ulceration of the inflamed mucous membrane of the tympanum, by extending to the deeper layers of that membrane (which act as the periosteum on the inside of the osseous cavities) and finally attacking the bone itself.

Politzer describes the process as "an infiltration of round cells into and around the fibrous tissue which penetrates the substance of the bone as offshoots from the mucous membrane. These round cells may undergo three transformations; they may break up and be absorbed, they may be converted into connective tissue in which depositions of lime may take place, and we then have a thickening of the bone, or they may, by degeneration and erosion, produce an ulcerative osteitis. This ulceration may be due to constitutional taint, or to retention and decomposition of secretion, or to the catarrhal ulceration and wasting of the mucous membrane."

As the carotid canal (through which passes the carotid artery) forms the anterior wall of the tympanic cavity, and the jugular fossa (in which lies the bulb of the jugular vein) constitutes the floor of the tympanum, it will be readily seen why dangerous and even fatal hæmorrhage may occur as the result of caries and necrosis of the middle ear. The bony walls of the tympanum are always thin, and in some cases the roof is entirely absent. The middle and back part of the temporo-sphenoidal lobe and the outer and front part of the lateral lobe of the cerebellum are in direct contact with the middle ear. Knowing this intimate relation of the tympanic cavity to the brain to exist, it does seem surprising that many more fatal results from inflammatory diseases of the temporal bone are not recorded.

As the skin of the external auditory canal (being somewhat modified) is continuous with and forms the outer layer of the membrana tympani, suppurative otitis media may be set up from without as well as by infectious matter reaching the tympanum through the Eustachian tube, the mucous membrane of which is continuous with that of the throat and forms the inner layer of the drum. And, as many of the mastoid cells lie below the level of their opening into the middle ear, and the floor of the tympanum is in part below the orifice of the Eustachian

tube, it will be seen how a suppurative disease of the tympanic cavity, or even the mastoid cells, may continue in a chronic state for months or years.

In suppurative otitis media brain abscess may be induced by direct continuity of the structure, or the infectious matter may be communicated to the dura mater, causing subcranial abscess or diffuse meningitis, or to the blood vessels in the diploe giving rise to osteo-phlebitis, thrombosis of the lateral sinus, or pyæmia. Or, as is the case in suppurative otitis externa, likewise in neglected otitis media, the pyogenic germs may find their way between the opening formed by the non-union of the vaginal and mastoid processes, thus producing a superficial mastoid abscess.

Through curious involvement of the malleus and incus there is frequently a direct communication between the tympanum and the mastoid antrum and cells, this being the usual way in which pus invades these cavities and forms a true or deep mastoid abscess.

There are many other routes along which the infection may travel; it may extend through the hiatus fallopii or the aqueductus vestibuli, or down the internal auditory meatus, or it may extend along some of the numerous small veins which run between the internal and middle ear, on the one hand, and the dura and pia mater on the other.

I will now briefly relate one interesting case of mastoid disease following an acute suppurative otitis media.

On March 26, 1892, I was called to see Mrs. L. B., and found she had been suffering from a severe pain in her left ear and head for two weeks. On inspection nothing could be seen that would suggest a forming abscess of the middle ear, and as the pain in the head was so general it quite deceived the attending physician. On examination through the meatus we found a greatly inflamed drum and bulging of Shrapnell's membrane. We immediately opened the drum, which allowed a free escape of pus and greatly relieved the patient's pain. This was followed by leeches in front and blisters behind the ear; after which hot poultices were applied to promote suppuration. From this line of treatment entire relief was obtained for five weeks (but the ear continued to discharge), when pain was complained of over the mastoid; in fact, it involved the entire left side of the head.

The usual active measures were at once adopted to relieve pain, but the brief cessation of suffering was only while under the influence of drugs. (It is well to state that neither the mastoid nor any part of the head showed any evidence of either redness or swelling.) Three weeks later she expressed her

willingness to submit to an operation, and, with the kind assistance of Dr. J. M. Barton, I opened the mastoid cells, evacuated the pus, and found, by using the syringe, that the opening in the mastoid communicated with the external auditory canal. This established perfect drainage, which relieved the patient of all pain and discharge, but the hearing was found to be destroyed.

In August we removed the drum and ossicles, which resulted in the almost immediate restoration of her hearing, which remains normal at this writing.

As all inflammatory conditions and abscesses of the brain are most serious, and especially so when dependent upon diseases of the temporal bone, it therefore becomes our imperative duty to make every effort to prevent these unfortunate complications, rather than to hope for their relief after having once developed.

It is not the object of this paper to enter into the subject of treatment from a general surgical point of view, but simply to offer such suggestions as are thought to be in a measure preventive, for it must now be admitted that many of the serious complications arising from diseases of the ear have much to commend the probability of their being preventable. As already shown, the majority of brain and mastoid diseases are due to a suppurative disease of the tympanum, and are usually the result of the chronic form of discharge.

Most cases when applying for treatment give the history of a "running ear" extending over months or years, and that it has resisted treatment in the hands of many competent physicians. In cases of chronic discharge from the ear that do not yield to due and proper care it is now our rule to advise the removal of the drum and one or more ossicles.

By this surgical procedure we establish a free drainage and make an opening into the tympanum sufficiently large to admit of the site of the disease being properly treated by antiseptic washes and applications, and if this interference be established before brain or mastoid complications have set in these developments will almost surely have been prevented; besides, the discharge in nearly all cases will cease, and the hearing in the majority of patients greatly improve, while in others it becomes quite normal.

Or, if you have a case presenting symptoms of cerebral irritation or abscess where there is a chronic "running ear," and it does not yield promptly to the above measures in conjunction with leeches to the mastoid, etc., it may be due to pus confined in the mastoid antrum, and no time should be lost in making an incision over the mastoid and trephining the same

half an inch behind and above the centre of the external meatus. Within the past year I have seen five cases relieved by this method of treatment. In suspected mastoid disease an incision down to the bone is often delayed too long, and perhaps is never done too soon.

REPORT OF A REMARKABLE SERIES OF THIRTY-THREE CASES OF  
DIPHThERIA TREATED BY THE TARTARIC ACID CORROSIVE  
SUBLIMATE OF MERCURY METHOD.

By M. GRAHAM TULL, A. M., M. D., Visiting Physician to the Baptist Orphanage.

During the summer of 1889 my attention was attracted to an editorial in the *Medical News* which gave a synopsis of an article that had appeared a short time previously by Dr. Rennert, of Frankfort-on-the-Main.

The substance of the article was to the effect that Rennert, while passing through an epidemic of diphtheria of great malignancy, and in which he had lost a great many cases, recollected that Laplace had but recently proved by direct experiment that corrosive sublimate in solution, slightly acidulated with tartaric acid, was by far the most efficient of any of the germicides to be found, as applied to the bacteria of diphtheria.

Whereupon Rennert immediately changed his treatment. In addition to the conventional methods he had the throats thoroughly swabbed every six hours with a 1:500 tartaric acid corrosive sublimate solution, making sometimes four or five applications at one sitting. After instituting this procedure he did not lose a patient, although the epidemic had not apparently begun to decrease in virulence.

I was at this time using as a disinfectant in obstetric work the so-called tartacid sublimate tablets of Mulford & Co., of Philadelphia, consisting of 3.85 grains of hydrarg. bichloride to 19.25 grains of tartaric acid. The addition of one of these tablets to four ounces of water makes a 1:500 solution. I, therefore resolved to adopt Rennert's plan in future cases of diphtheria, as the *rationale* of the method appealed very strongly to me.

It so happened that the following autumn I had from forty to fifty cases, and my experience fully corroborated the results of Dr. Rennert. I lost no cases treated by this method, although three children who had contracted the disease from my patients died of it. Two of these I saw after they had been ill a number of days, but they were then almost in *articulo mortis*. The third was a case of my own which did so well under the treatment that the parents, against my advice, persisted in their previously-formed intention of moving to another



part of the city. The great distance debarred me from continuing in the case, and I subsequently learned of its death.

After this my cases were so few and scattered that, although the method proved eminently satisfactory, I kept no record of them.

During the autumn and winter of 1892, however, the following very interesting and, I trust, instructive series of thirty-three cases came under my observation at the Baptist Orphanage of Philadelphia.

Late in the preceding winter two cases of diphtheria, in half-grown children, appeared in a farm house directly opposite and distant about one hundred yards from the Orphanage. The disease presented a very malignant aspect, and notwithstanding the faithful care of a competent brother practitioner, both children died after an illness of a week or ten days. A number of other cases appeared in the village at this time, one of which I happen to know resulted fatally.

The following August one of the boys at the Orphanage, a lad of sixteen years of age, who had been assisting the gardener spread manure that had been obtained from the farm where the children had died the preceding winter, was suddenly taken ill with fever, vomiting, and slight sore throat. My first visit being made at dusk, I fancied the case was one of beginning scarlatina, of which we had had a few cases the preceding spring; but upon my visit the following morning the diagnosis of diphtheria was apparent, and I lost no time in having him transferred to the Municipal Hospital, dreading the entrance of the disease among so many children.

Unfortunately, we were too late, and in the next few days nine of the boys from the same cottage developed well-marked cases, and were at once isolated in a separate building which had been converted into a temporary infirmary. A trained nurse was obtained and the children placed under treatment at once. As a routine measure, each child was given the following tablet triturate: hydrarg. chlor. mit., gr.  $\frac{1}{5}$ ; sodii bicarb., gr. j; ipecac, gr.  $\frac{1}{10}$ ; every half hour until free movements of the bowel ensued, and after that they were continued every two hours. The following mixture, modified to suit the varying ages, was also employed:  $\mathcal{R}$ .—Quininæ sulph., potas. chlorat., potas. citrat., syr. ferri chlor. (P. D. & Co.), syr. yerba santa.— $\mathcal{M}$ . et Sig., one drachm every two hours.

The nourishment consisted of liq. peptones (S. & J.) and milk at the commencement of the cases, rapidly followed by a full diet as the patient convalesced. In addition to this the nurse was instructed to apply every three hours, by means of a cotton swab, a 1:500 solution of the tartaric acid corrosive

sublimate tablet, made by dissolving one of Mulford's tablets in a gill of water.

The results were immediate and remarkable, the temperature falling, the pulse becoming normal, and the aspect of the child undergoing an astonishing change. The course of the membrane across the fauces was checked, and in each case came away in about forty-eight hours. All of these children were practically well in two days, while the first case, which was transferred to the Municipal Hospital, was quite seriously ill for some time, and was not discharged for over six weeks.

The effect of this unusual success in the first nine cases was, in some respects, followed by unpleasant results, though of great value to this paper, furnishing, as it does, complete check experiments upon my other cases.

A feeling of skepticism was developed in the minds of the attendants, and even the nurse was tainted by the prevailing feeling. So that, after the children first affected were about ready to return to their cottages, being allowed to play on the veranda on pleasant days, the strict quarantine which I had endeavored to establish was completely relaxed, and visits of more or less ceremony were exchanged between the nurse and the matrons of the other cottages.

I had promised to return the children to their own building on Wednesday, but on the Friday preceding five of the children in the so-called children's cottage were taken ill with fever, vomiting, coated tongues, etc., not, however, complaining of their throats.

The matron of their cottage, who was a law unto herself, said: "The doctor was mistaken in thinking that the children who were sick had had diphtheria and that she would not allow her little ones to be taken to the infirmary, but would show him that she could treat them as well as he." She, therefore, had them taken to the third story of her building, and allowed the well to stay with and amuse the sick. This was, of course, in direct opposition to my order that any child with the slightest suspicious symptoms should be sent immediately to the infirmary, where we had provided a separate apartment for such cases.

The first child was taken ill on Friday, and on Monday evening, after what I had hoped would be my last visit to the infirmary, the matron stopped me to say that she had five children ill with a slight stomach derangement, assuring me at the same time that there was nothing wrong with the throats, as she had carefully examined them. I declined to see them then, having just left a diphtheritic atmosphere, but called the next afternoon, having been prevented from going earlier,

owing to urgent professional engagements. To my horror and disgust I found the children had had diphtheria for some days, their sickness having been carefully concealed from me. They were at once removed to proper quarters, but the disease had acquired such headway that in four or five days three of the five died, all of them dying of heart and kidney involvement, being victims, in my opinion, of the development and absorption of the diphtheritic ptomaine. After this fresh outbreak we had eighteen other cases, two of whom died. One a child two years old, with a very bad family history, all of his family connection being dead, and the other a child four years old, also with a bad family history, who at the height of the diphtheria developed a very violent attack of measles, and succumbed to the combined force of the two diseases.

I have only been able to get the charts of the first nine cases, which I here append:

CASE I.—George T., aged 11 years, entered the infirmary on September 5, 1892. Temperature on entering at 6 P. M. 102 deg.; pulse, 120. At 8 P. M., after swabbing, temperature 100.8 deg.; pulse, 100. September 6, 11 A. M. Temperature, 101 deg.; pulse, 99. 11 P. M. temperature, 99.4 deg.; pulse, 80. September 7, 2 A. M. temperature, 98.4; pulse, 84. The diphtheritic patch disappeared. Uninterrupted recovery.

CASE II.—Harry McK., aged 10 years, admitted September 4, 6 P. M. Temperature, 98.8 deg.; pulse, 84; throat very much inflamed, but no patch. 5th inst. Throat considerably ulcerated. 8 A. M. Pulse, 80; temperature, 98.6 deg. 6th inst., 5 A. M. Pulse, 69; temperature, 98.4 deg. Patch disappeared. Uninterrupted recovery.

CASE III.—Thomas H., aged 10 years, admitted August 27, 1892, 4:30 P. M. Pulse, 105; temperature, 101 deg. 10 P. M. Pulse, 110; temperature, 102.6 deg. Throat with large, dark patch. Treatment continued through the night, and recorded every two hours. August 28, 12 M. Pulse, 90; temperature, 98.4 deg. 6 P. M. Pulse, 84; temperature, 99.4 deg. 9 P. M. Pulse, 84; temperature, 98 deg. 12, midnight. Pulse, 86; temperature, 98.4 deg. Ulcerated condition disappeared on 28th inst. Uninterrupted recovery.

CASE IV.—Fred. D., aged 9 years, admitted August 30, 5 P. M. Pulse, 105; temperature, 104 deg.; 7 P. M. temperature 103; 10 P. M. temperature 100.6 deg.; 31st. inst. temperature 99.2 deg.; September 1, 1 A. M., temperature 98.8 deg.; 1 P. M. temperature 98.4 deg.; pulse, 80. In this case on entering he had offensive breath, large patch extending back on the fauces, coated tongue, flushed face, bad headache, etc. Recovery was uninterrupted.

CASE V.—Elmer G., aged 8 years, admitted August 31, 2 P. M. Face flushed; throat badly ulcerated, extending upon the fauces. Pulse, 103; temperature, 101.6 deg; 5 P. M. temperature 101.4 deg; 8 P. M., 100.4 deg.; 11 P. M., 100 deg. September 1, 2 A. M., temperature, 99.8 deg.; 5 A. M., 99.8 deg.; 2 P. M., 99.4 deg; 11 P. M., 98.6 deg. September 2, 2 A. M., temperature, 98.4 deg. Uninterrupted recovery.

CASE VI.—Roland S., aged 7 years, admitted August 31. Patch large and extended. Breath very offensive. Glands on left side enlarged. 11 A. M., pulse, 116; temperature, 102.2 deg. 2 P. M. temperature 103.6 deg.; 5 P. M. 102 deg.; 8 P. M. 101.2 deg.; 11 P. M. 100 deg. September 1, 2 A. M., temperature, 98.8 deg.; 11 A. M., 102 deg.; 2 P. M., 99 deg.; 8 P. M., 98.5 deg. Uninterrupted recovery.

CASE VII.—Thomas C., aged 12 years, admitted September 3. 5 P. M., temperature, 102 deg.; 8 P. M., 103 deg.; 11 P. M., 102 deg. 4th inst., 2 A. M., temperature, 102.2 deg.; 5 A. M., 100 deg.; 8 A. M., 100 deg.; 11 A. M., 99.4 deg.; 2 P. M., 98.6 deg. 5th inst., 2 A. M., 98.4 deg. Recovery uninterrupted.

CASE VIII.—Willie H., admitted August 27. Diphtheritic patch large. Cervical glands very much swollen. Temperature, 7 P. M., 99.6 deg. Ranged below this until the 29th inst., when at 4 P. M. it fell to 98.4 deg., and remained so. Recovery uninterrupted.

CASE IX.—Charles W., admitted September 10. 5 P. M., temperature, 102.2 deg. Throat involvement marked. 8 P. M., temperature fell to 98.6 deg; 11th inst., at 8 P. M. was 98.4 deg., and remained so. Recovery uninterrupted.

With the exception of those who died, the other cases all presented this same clinical picture. In some of the fatal cases I was obliged to use a spray of hydrogen peroxide in addition to the bichloride to purify the air, on account of the intensely disagreeable odor, but my experience with it as a remedial agent has been so unsatisfactory, as compared with the bichloride, that I rarely use it, excepting as a deodorizer. The danger of salivation from the sublimate solution seems to be nil, as in a few laryngeal cases I have given as much as the eighth of a grain every two hours, in addition to the local use, although in such cases I think the drug should be carefully watched. Nor is there any danger from the patient swallowing the cotton, as in one instance a patient of mine did, owing to the cotton being so carelessly rolled on the holder that it came off in the child's mouth and was swallowed. Even in this case the dose of the bichloride is not excessive. A drachm of the solution only contains one-eighth of a grain,



and as the ordinary tuft of cotton used for such purposes will only hold a teaspoonful of the solution, and almost all of this is expressed out of the cotton against the fauces, and expectorated, the amount swallowed is not more than a tonic dose.

The advantages of this method are many, and the rationalé of it appeals very strongly to the judgment.

We all recognize the fact that the germ is not markedly aggressive, and we know that a necessary concomitant to its spread is a proper culture field. By experience we have learned that the throat of a delicate child furnishes a good culture medium, while that of a robust child will fight it off successfully. Therefore, anything that detracts from the value of the throat as a culture medium adds to the natural resisting power of the susceptible child and raises him to the level of the child of stronger constitution, who needs no extraneous aid. This desideratum is obtained when we have a wash which, though deadly to the germ, is practically harmless to the child. Then, by the death of the bacteria, the membrane is limited and the danger of subsequent mechanical obstruction is obviated. In destroying the germ we also cause a cessation in the formation and absorption of the ptomaines, thus lessening the risk of paralysis, septicæmia, heart failure, albuminuria, and all the train of symptoms that follow in the wake of this powerful animal alkaloid. Another advantage is that the treatment is quite as satisfactory in the treatment of the less serious throat and tonsillar affections. I have found nothing act so rapidly and certainly in simple ulcerative tonsillitis or in the follicular variety, the subjective symptoms in both yielding at once. Then, again, it lessens the chances of the spread of the disease through a house or neighborhood, and reduces to a minimum the danger to the attending physician, as the disinfection is carried out at the very fountain head of the trouble. Instead of haunting the germs in the nooks and the crannies of a room, they are attacked in their own citadel.

And still another advantage in this method of treatment is that no time is lost, as the necessary tablets furnish a part of the physician's obstetric armamentarium. It is my practice to at once give the attendant of my patient a tablet, with minute instructions as to how to apply the wash. My experience has taught me that a good method is to make the applications every three hours, and simply to press the cotton against the membrane, thus soaking it. The second or third day the membrane becomes readily detachable, and usually comes away on withdrawing the cotton. Formerly I thought it necessary to rub and tear the membrane loose, but I have never seen any benefit from it, while it is very annoying to the patient. As the patient

begins to convalesce I make the intervals of applications six hours, and, finally, twelve hours apart. While my results have been generally obtained by means of the cotton applicator I can see no reason why the use of the atomizer should be interdicted, although in an unruly child it is almost as difficult to use one method as the other.

In conclusion, I claim for the method that, in competent hands, such as Dr. Rennert's, and under the peculiar circumstances in which a perfect check experiment was furnished, such as in my own cases, it has proved a simple and perfectly satisfactory remedial agent, and I beg for it a thorough trial, hoping that it may prove in the hands of others all that I have obtained from it.

#### URETHRAL IRRITATION.

By MARY PUTNAM JACOBI, of New York City.

The causes of vesical and urethral irritation in women are both numerous and diverse. Gynecologists constantly refer to the irritation which accompanies uterine lesions—either inflammations or displacements. Dr. Howard A. Kelly has called attention to the tenesmus and frequent micturition which may be excited by lesions of the ureters, and such tenesmus may, for a certain time, be the most salient symptom of a renal calculus. On the other hand, the distinguished Philadelphian gynecologist, Dr. Wm. Goodell, has truly said that “a nervous bladder is one of the earliest symptoms of a nervous brain; for nervousness means a deficient control of the higher nerve centres over the lower ones; the vesical irritability indicates a lack of brain-control.” The following case excellently illustrates this remark:

It was that of an unmarried woman about 25 years old, of a highly nervous temperament. A year previous to consultation she had, together with a sister, opened an office for type-writing. The business responsibility was unfamiliar, the work often heavy, and the patient had become anxious, worried and excited over it. She did not, however, complain of but one symptom, namely, a frequent vesical tenesmus, recurring night and day. The passage of urine was free, but preceded and followed by an unbearable distress, apparently situated in the neck of the bladder. The urine was entirely normal in every respect, free from albumen, sugar, oxalates, or other sediment, inorganic or organic. The urethra was normal, and the bladder could be explored by the sound without causing any pain. There was no uterine disease. I should add that there were no definite hysterical symptoms, unless the irritability of the bladder be reckoned as hysterical. The patient was entirely

cured by local faradization—one electrode being placed over the lumbar spine, the other over the bladder. A few applications were first made at my office, and immediately followed by diminution in the irritability of the bladder and in the tenesmus. Then the patient procured a faradic battery for herself, and applied the current for about twenty minutes every night. Relief was speedily obtained, and a complete cure effected in a few weeks.

My recollection of the details of this case is incomplete, as it was observed by me a good many years ago, and I have not full notes. If the frequent and spasmodic contraction of the bladder be due to an over-excitation of the nerve centres of the lumbar spinal cord, and if this over-excitation be due to the loss of cerebral inhibition, it is difficult to understand why the local application or the stimulating form of the electric current should have had so positively curative an effect. The explanation may be approximately referred to the general action of faradic electricity on hysterical peripheric neuroses—action which may be almost called specific—since it is exerted with success in all three forms, namely, hysterical paralyses, hysterical cramps and hysterical paræsthesias.

Another case was that of a markedly hysterical woman, aged 50 years, and who had passed the menopause, but who was subject to profound analgesia of the lower extremities so that a pin could be plunged into the flesh and buried to its head without causing the least pain. This patient was subject occasionally to acute attacks of vesical irritability, associated with great general nervousness and depression of spirits. Such an attack was promptly dissipated by the injection into the bladder of two grains of cocaine dissolved in an ounce of water.

A third case was chiefly remarkable for the long duration of a single symptom, for the limited extent of its causal lesion, and for the final success of the treatment. The patient was a West Indian creole lady, between fifty and sixty years old, a widow, who had never had any children, and had never suffered any uterine disease. She was remarkably short, had an old standing lumbar scoliosis, and suffered often from the muscular pains of lithæmic indigestion. She consulted me for an annoying and constant sense of pressure at the neck of the bladder, or rather more externally, at the urethra, attended with a moderate frequency of micturition, but no alteration of the urine. Just before and after micturition the sense of pressure increased and became more painful. Fifteen years previous, to relieve this same symptom, the urethra had been forcibly dilated by Dr. Marion Sims, but the patient insisted that she had not been at all benefited by the operation.

No spasm and but little pain was caused by the introduction of the catheter; and dilation of the urethra with an ordinary urethral speculum failed to reveal anything abnormal. I tried several plans of treatment upon the case, which were all quite successful, and the patient finally ceased attendance. About five years later, very much to my surprise, she returned with exactly the same complaint. On this occasion, thinking that this peculiar and limited morbid sensation might be a pure neurosis, I applied faradic electricity by means of a double electrode inserted into the urethra and just within the bladder. This treatment at once greatly relieved the patient, and the relief persisted for twenty-four hours, when the distress returned. Repetition of the local electrization had the same effect, and the patient was so much more improved by this treatment than by any other which had been tried that she persisted in it for several weeks. By that time she considered herself very decidedly improved, but not yet well. I then had an endoscopic examination made, and it was found that the mucous membrane of the bladder immediately surrounding the urethral orifice was swollen into a ring.

The surface of the ring was moderately reddened. It seemed as if this protruding localized hypertrophy of the vesical mucosa had formed during efforts at bladder expulsion made in former years against some obstruction—very possibly a spasmodic contraction of the neck of the bladder in consequence of a fissure. The faradic electricity had relieved by determining retraction of the submucous cellular tissue. It seemed probable that the local application of a strong astringent would effect a more permanent shrinkage of the swollen mucosa. Accordingly, applications were made of solution of nitrate of silver—five grains to the ounce—by means of an instrument that permitted the application to be made exclusively to the affected locality. The result was immediately beneficial, and a few similar applications, made twice a week, succeeded in entirely curing this troublesome symptom, which had been annoying the patient for twenty years.

My fourth case seems to me of unusual interest, both on account of its medical history and of the physiological doctrine it illustrates. The patient is a woman 35 years of age, who for many years had been overworked and underpaid in responsible business employments. Eight years ago her health began to suffer from two symptoms—severe spasmodic dysmenorrhœa and a distressing, burning sensation at the urethra. This was at first said to be constant, but inquiry showed that the patient suffered little from it while lying in bed, but intolerably if she attempted to walk, so that she soon became unable to walk but



a block or two. She consulted a prominent gynecologist, who treated her locally for three months, then advised her to enter the Woman's Hospital. She remained for some time in one service, and at length the surgeon declared he could do nothing more for her unless she would submit to the operation of an artificial vesico-vaginal fistula. Refusing this, she entered another service in the same hospital, and here Emmet's button-hole operation on the urethra was proposed and performed. The patient, however, did not benefit in the least from these various manipulations, but rather grew steadily worse. According to her statement the most careful exploration was repeatedly made for any pelvic lesion adjacent to the bladder which could explain the persistent distress, but nothing definite was ever found.

After ten months' residence at the hospital the patient left it, rather worse than when she entered. She then went to England and consulted Dr. Keith, who, after a careful examination, advised her to desist from all further treatment. She followed this advice, and attempted to resume work, but her strength continued to deteriorate, and she finally was compelled to give up her work again, and remained a wretched invalid.

When the patient consulted me she was a thin, pale, anæmic woman, quiet and rather slow of speech, rather unusually free from the excitability and mobility which so often characterizes hysterical patients. Examination of her blood found 70 per cent. of hæmoglobin, and 1,960,000 blood corpuscles to the cubic millimetre. There was a continuous venous hum at the jugular.

The patellar tendon reflexes were normal. The subjective symptoms were: A constant sense of fatigue, mental and physical, rendering all exertion impossible; this associated with a sense of mental confusion and imperfect memory; distress, rather than pain, in the back of the head; profuse sweating at night; tenderness on pressure at Charcot's point, but on the right side; the skin over the hypogastrium and thighs moderately hyperæsthetic to touch, and extremely so to faradic electricity. There was a constant burning pain at the urethra, not at all aggravated by micturition, but greatly by walking. A distance of one or two blocks could be traversed with comparative ease, but then the burning pain became intense; a bearing-down sensation in hips and hypogastrium was added, and a heaviness extending down the thighs.

At menstruation the patient suffered intensely for several days, but during the pre-menstrual week she usually felt pretty well, at all events much better than at any other time. This fact contrasted emphatically with the pre-menstrual pains which

almost invariably characterize ovarian disease. Again, micturition was neither painful nor frequent, and was unaccompanied by tenesmus. A local examination found the uterus perfectly healthy; nothing abnormal discoverable in the pelvis except tenderness upon pressure in the region of the left ovary. The latter, however, was not sufficiently accessible to be exactly defined.

The urethra remained deformed by the partial failure of the union attempted after the button-hole operation. A catheter passed into the bladder caused no pain until it reached the neck of the bladder, then a spasm occurred, moderate in intensity but causing great pain. The spasm was easily overcome, and within the bladder the instrument caused no pain. The urine was normal in every respect. The patient had discovered for herself that the ingestion of large quantities of hot water—increasing the quantity of urine—diminished somewhat the urethral paræsthesia. If for any reason the urine became scanty, the burning became intense. The negative result of the local examination was entirely in accordance with that of the repeated explorations which had already been made by distinguished surgeons. In view of it, and of all the circumstances of the case, I myself made the diagnosis of a severe cerebro-spinal neurasthenia, of which the urethral burning, the ovaralgia, and the dysmenorrhœa were concomitant symptoms. They were, so I argued, symptoms projected on the periphery from a brain so badly nourished as to be the prey of sensory hallucinations, generated in its lower visceral centres. The history of the case seemed to indicate that local manipulation of the bladder tended to increase, rather than diminish, the subjective hyperæsthesia. The aggravation of the paræsthesia by walking, the relief afforded by recumbency, seemed to me to depend on the facile exhaustion of the centres in the lumbar cord, with their double relations to the innervation of locomotion, and to that of the pelvic viscera. It did not, as evidently had been supposed, argue a coarse lesion of these viscera, which might be aggravated by pressure; rather a vasomotor neurosis due to loss of spinal control when the lumbar cord centres became exhausted.

In a very large number of cases cerebro-spinal neurasthenias, with irritative symptoms, depend upon lithæmia, or, more precisely, upon defect in the hepatic digestion of albuminous foods.

Reasoning most plausibly, though from too few experimental data, Haifi has argued that many irritative or explosive symptoms in lithæmic cases depend on a saturation of the nervous tissues with uric acid; that the nerve explosions of

migraine, and also of epilepsy, are correlated with a uric acid wave, as uræmic eclampsia is believed to depend on the surcharge of the brain tissues with excrementitious substances.

Herter, of New York (*N. Y. Med. Journal*, September, 1892), in a recent essay, calls attention to the numerous putrefactive products of nitrogenous foods, which form in the intestine when digestion of such foods is imperfect. Estimating these putrefactive products by the ethereal sulphates which appear in the urine, Herter has studied their relation to epileptic attacks, and believes to have found some degree of correlation between the formation of such substances and the convulsive seizures, and at any rate an abnormal degree of intestinal putrefaction in epileptic neurotics. These recent researches tend to focus and accentuate the conviction which many observant physicians must have formed, that the irritative phenomena of neurasthenic conditions are probably traceable to the immediate action of nerve centres of toxic substances circulating in the blood.

It is known that the forms of neurasthenia which are characterized by mere simple debility are often wonderfully benefited by an excessive meat diet. This determines an excess of nitrogenous metabolism which, when well borne, is a most powerful stimulant to the nutritive processes of nerve centres. In irritative neurasthenias, however, the milk diet is often far better tolerated, and the explanation is probably to be found in the fact that on such diet the various perversions of nitrogenous metabolism are reduced to a minimum.

In the case in question I resolved to experiment with both diets, and began with the meat, intending to administer a pound and a half a day. However, in the first two days the patient only succeeded in taking three-quarters of a pound a day, and on the third came to me in a very curious condition. Her habitual air of quiet depression had changed to great restlessness. Her respirations were 28, somewhat panting; her pulse 120, feeble; the sphygmograph showing a marked respiratory curve. Her mouth was parched, she felt feverish, but, though she had continued to drink a great deal of hot water, the urine had become scanty and high-colored, and the urethral burning was intense. She had been unable to sleep the previous night, was nauseated and had contracted an intense repugnance to even the thought of animal food. In spite of the restlessness the patient was drowsy. This condition, produced as promptly and distinctly as if in a laboratory experiment, suggested several explanations, and, unfortunately, there was no opportunity to analyze the urine in such a way as might aid in the choice between them. Thus there was the possibility of a uric acid

saturation of the nerve centres, an improbable theory, as the symptoms were quite different from those habitually associated with uric acid excess or retention.

The drowsiness especially suggested that peptones, insufficiently modified in the liver, had passed almost unchanged into the circulation, as in Lauder Brunton's experiment.

From a third point of view, the imperfect digestion of the meat had resulted in abnormal putrefaction in the intestine with generation of toxic substances, which, passing into the blood, had occasioned the entire cortège of pseudo-febrile symptoms. This on the whole seemed the most possible hypothesis.

The most important practical fact was the great aggravation of the urethral burning or paræsthesia under these circumstances, which certainly tended to confirm my hypothesis of its origin in constitutional conditions. The diet was changed to one exclusively of milk, three quarts a day. Two days later the patient returned, seeming a different person. The restlessness, hurried respiration, and nausea were gone; the pulse dropped to 84, the urethral burning and ovaralgia disappeared, the patient feeling for the time quite comfortable.

The case is still under observation and the symptoms oscillate, though with, on the whole, a steady improvement in the condition of the patient. She is kept in bed the greater part of the day, on a diet of milk, baked apples, and a little rice; takes a steam leg-bath followed by cold sponging, minute doses of iron with maltine. Sleep is greatly improved, the mental depression lessened, the urethral burning reduced to a minimum, only occasionally aggravated; such an aggravation occurred on a cold, damp day, but on the next, a bright and clear day, the patient again felt a great deal better. Nevertheless, she was suffering rather more than usual from the occipital pain. The latter was entirely dissipated by an application of static electricity below the occiput. The same application was then made along the spinal column, and although for two minutes the patient was greatly fatigued, she then experienced an agreeable warm glow and sensation of prickling all over her body; and coincidentally, what degree of urethral distress and ovaralgia was for the moment persisting entirely disappeared.

Throughout the day and the next these two symptoms remained entirely absent, but the occipital headache returned on the second day, to again disappear on the third.

The absence of local pelvic lesions in this case might seem to render it inappropriate for the presentation at this meeting. But I have thought it interesting because the existence of local symptoms seem to have been sufficient to convince so many



distinguished physicians that such lesions must exist, even though they failed to discover them. Yet it is a general law for sensory symptoms that any one may be due to one of three conditions: There may be a structural lesion at the point to which the sensation is referred. There may be a lesion at a distant or adjacent point from which nerve irritation is irradiated to the point of sensation. Finally, there may be a functional disturbance of the brain nowise representing the part, which disturbance is expressed by the morbid sensation referred to the periphery. On this account there should not have been any difficulty in regarding this urethral symptom as an expression of central nervous disturbance, from the moment that careful examination had failed to detect any local lesion of the bladder, urethra, or adjacent pelvic organs. Yet the presumption in regard to such lesions was great, that when they were not found, they were almost invented; and when prolonged surgical treatment only left the patient in a worse condition than at first, she was given up as incurable, because her parts refused to adjust themselves to a preconceived and erroneous theory.

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The following members of the class of 1893, of Tulane University, so far as heard from, have located as follows: Dr. B. S. Ezell, Kosse, Tex.; P. B. Coopwood, Tilman, Tex.; Chas. McVea, Baton Rouge, La.; L. E. Broughton, Greenville, Ala.; L. A. L. Lamkin, Luling, Tex.; Geo. S. Bel, New Orleans, La.; Geo. H. Prothro, Robeline, La.; F. B. Lowe, Algiers, La.; E. E. C. Pollock, Algiers, La. The JOURNAL would be glad to receive notices from the other gentlemen as to their whereabouts.

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## Editorial Articles.

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### THE CHOLERA.

The fears entertained last year of a recrudescence of cholera in European cities have, unfortunately, proven but too well founded. The daily papers have already informed the reading public of the outbreak of the disease in Naples and Marseilles. The existence of the disease in these cities was concealed for some time; and when concealment was no longer possible some of the newspapers of those cities expressed indignation at the audacity of those persons who were willing to inflict damage upon their commerce for the purpose of protecting the rest of the world against invasion. The wisdom of our health authorities in relying on reports of their own agents rather than upon the certificates of the local health authorities has been fully vindicated.

This present outbreak brings to mind two very interesting papers read at the last meeting of the American Medical Association, on cholera. One was by Mr. Ernest Hart, of London, who called attention to the great importance of drinking water as the carrier of the choleraic infection. The other was by Dr. Walter Wyman, Supervising Surgeon General of the Ma-

rine Hospital Service, who advocated a vigorous campaign against cholera with a view to stamping it out altogether, just as certain medieval plagues were wiped off the face of the earth.

Mr. Hart has devoted many years of his life to the study of communicable diseases, particularly cholera. His official position in London, as an officer of health, gave him opportunities for the study of these diseases that few men could enjoy. Every outbreak of cholera that has come under his observation has been carefully studied, with a view to tracing out the source and means of spread of the disease. In most of the instances, careful search has convinced him that drinking water is the greatest, almost the sole carrier of the choleraic poison. The numerous examples that Mr. Hart gave of local outbreaks arising from the pollution of drinking water, that could easily be traced, would convince even the most skeptical of the influence of the water in spreading infection. Two instances might here be briefly referred to. During the prevalence of cholera, the disease was introduced into London, but it was confined to certain districts. London being supplied with water by several different companies, it was easy to ascertain if the disease was confined to a district supplied by one or more companies. It was learned that the cholera raged only in the localities supplied by companies that derived at points where it could be polluted by the sewage of the great city. That water was ordered to be stopped, and the cholera very promptly disappeared. When it was thought that the scourge had been stamped out, there suddenly occurred a violent outbreak in one small district. Many thought that Mr. Hart's water theory had failed him, but, nothing undaunted, he prosecuted his investigations with renewed vigor. The officers of the water company that supplied that district afforded him every facility for investigating the outbreak. He inspected the work, studied the plans of their pipes, examined the in-take, and went over the engineer's books, but all to no effect. The cholera still kept on destroying its hundreds. With faith unshaken, Mr. Hart went over the same ground again, thinking that he might have overlooked something. This time he noticed a little unimportant entry that he had

passed by before, without a second thought. In the engineer's book there was a brief memorandum, thus: " Pump No. — out of order." When asked what that meant, the engineer said the piston-head or something needed repairing, and that it had to be laid up. When asked if any other pump was put into service to take its place, he replied in the affirmative. Thinking that he might be on the right trail, Mr. Hart followed it up, and his perseverance was rewarded. The pump that had been pressed into temporary service drew its water along a different way, and at a certain point it was discovered that a leaky drain pipe from a house where a number of persons had died of cholera allowed choleraic matters to drop into the stream of water going to the old pump. This water was pumped into the district in which the cholera had suddenly broken out, and was the direct cause of the outbreak. When the water was changed the cholera quickly disappeared. That little accident to the pump at the water-works cost six thousand lives. In commenting upon this, Mr. Hart said that many people blamed the so-called sensational newspapers for writing exaggerated and harrowing accounts of trifling disasters that cause only a dozen or so deaths; but these accounts are trivial and insignificant when compared with the fearful revelations of everyday sanitation.

The other notable instance related by Mr. Hart occurred in Naples in 1885. When the cholera appeared in a certain suburb, supposed to be above suspicion, a friend of Mr. Hart's, residing at Naples, telegraphed to him that his water theory would not hold, that cholera had appeared in the supposedly immune suburb. Mr. Hart telegraphed instructions, which were carried out, with the result of finding out that the water had been, just before the outbreak, supplied from an infected source, and that as soon as an old, disused aqueduct was again brought into use the disease disappeared. This aqueduct brought water from the mountains, where cholera had not penetrated.

Dr. Wyman's paper expresses a hope that is beautiful, but very far off. It is not very difficult to keep cholera out of a city or a country, where proper sanitary precautions are employed; but to stamp out the plague so that it will become but a matter of history is an undertaking that involves a crusade



against Oriental filth and fatalism, and also one against religious fanaticism. Ignorance is better taught than fought. The rapid spread of intelligence in this century has been remarkable.

In order to stamp out cholera it will be necessary to educate a goodly number of millions of Hindoos, Persians and others up to the point of not pouring their filth into their drinking water.

Mr. Hart, in his address, said that England had spent £100,000,000 in securing a pure supply of drinking water. He confessed, with great mortification, that the enlightened Christian nation that had done so much to protect itself was responsible for the maintenance of a chronic focus of infection in India. The disease generally starts from this point, and spreads death and devastation broadcast. That, however, does not worry England much; she is thoroughly protected.

The local Indian government has made some attempt to deal with the cholera. The conditions that obtain there are not such as are found in civilized countries. The daily religious practices of the people tend to keep the disease alive; and we all know how hard it is to change an Oriental's religious notions. It does seem, though, that a little instruction in the art of not drinking water in which the people bathe and wash their clothes and a bountiful supply of wholesome drinking water would go a great way toward realizing Dr. Wyman's dream.

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While looking at things generally at the World's Fair at Chicago, we had occasion to feel proud of an exhibit by the Louisiana State Board of Health in the Department of Hygiene. The exhibit is a model of the quarantine and disinfecting apparatus at the Quarantine Station on the Lower Mississippi, about six miles above the Head of the Passes. The model is a triumph of mechanical skill, and reflects great credit upon the Board, which thus takes advantage of an excellent opportunity to let the world know how Louisiana protects the Mississippi Valley against the invasion of epidemic disease.

#### THE CORONERSHIP.

The vacant office of the coronership is soon to be filled by Governor Foster. Among the candidates mentioned for the position we notice the name of Dr. P. E. Archinard, formerly assistant coroner. There are none better qualified to fill the position than he is. A coroner should be a pathologist and alienist. Dr. Archinard has taught pathology in the medical department of the Tulane University of Louisiana, and he has had charge of the nervous diseases at the Charity Hospital for over ten years, a position that brings him in daily contact with all forms of nervousness. Dr. Archinard is very popular, and is highly esteemed for his devotion to duty. His appointment would meet with cordial approval on the part of the profession, and would be fresh evidence of the Governor's intention to fill the public offices with competent and deserving men.

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### Abstracts, Extracts and Annotations.

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#### MEDICINE.

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##### REMARKS ON THE SCOPE AND ORIGIN OF FIBROID PHTHISIS.

Dr. Auld urges the separation of tubercular from non-tubercular fibroid phthisis, insisting that the latter exists, and citing the following case to prove it: Man, aged 30, tin-smith, ill for ten years with a pulmonitis. Troubled with cough; yellow, occasionally blood-stained, expectoration, which lately became fetid, and pain in the chest. Respirations were 22, right side of chest flattened and dull on percussion. Temperature range between 99 deg. and 103 deg. F. When seen later the left lung had become involved, as shown by retraction, dullness and tubular breathing in the supra and infra-clavicular regions, etc. The sputum carefully examined showed no tubercle bacilli. Hectic was present. After death Dr. Coats performed the autopsy. The right lung was so adherent to the chest wall that it had to be dissected out. It contained several cavities of large size, lined by a perfectly

smooth membrane considerably sacculated. Hardly any lung tissue was left, and no trace of active disease could be found. The left lung was united to the chest-wall by adhesions of almost cartilaginous consistence. The lower lobe was shrunken and consisted of dense fibrous tissue of dark gray color. In the midst of this tissue were frequent collections of a pultaceous and calcareous matter. The rest of the organ was the seat of apparently recent lobular condensations and otherwise œdematous. The other organs were healthy. Careful microscopic examination made by Dr. Coats and the writer revealed entire absence of tuberculosis. To the writer this case suggests the possibility of frequently occurring cases of fibroid phthisis, in which the tuberculosis present is an accidental and late complication, having nothing at all to do with the original trouble.—*University Medical Magazine*.

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#### REMARKS ON DIABETES AND GOUT IN THEIR RELATIONSHIP TO LIVER DISEASE, WITH HINTS REGARDING THEIR SCIENTIFIC TREATMENT.

[By GEORGE HARLEY, M. D., F. R. C. P., F. R. S., F. C. S., Corresponding Member of the Academy of Munich, of the Royal Academy of Medicine of Madrid, etc.]

As the presence of sugar in urine is not in itself a disease, but simply a sign which may arise from a multiplicity of morbid conditions, I think I am justified in making the five following nosological divisions of the subject:

1. Hepatic diabetes—including the gouty variety.
2. Cerebral diabetes—including all cases of saccharine urine arising from nerve derangements.
3. Pancreatic diabetes—the most deadly form of the disease.
4. Hereditary diabetes—a form by no means uncommon, and one, too, where both brothers and sisters may labor under the disease without either their maternal or paternal parent having been affected by diabetes; though more distant members of the family may have suffered from it.
5. Food diabetes—including all forms of saccharin urine arising from the ingestion of unwholesome substances.

The presence of sugar in urine is due to a disordered animal chemistry, diabetes being, like gout, a chemical form of disease. As far as I am aware, however, there are but two ways in which the faulty bodily chemistry causes sugar to appear in the urine, and it was this belief that led me, no less than a quarter of a century ago, to divide all cases of diabetes clinically, as well as scientifically, into two great and distinct

classes. To the one I gave the name of diabetes from excessive sugar formation; to the other that of diabetes from diminished saccharine consumption—malassimilation.

Patients belonging to the first class are in general well nourished, and are so amenable to treatment that they may be kept alive and in comparative comfort for a quarter of a century and more; those belonging to the diminished consumption group are in general so little influenced by either medicines or diet that the vast majority of them succumb to the exhausting effects of the disease within a few weeks after its commencement.

These views were published in 1865, in a course of "Lectures on Urinary Derangements" in the *Medical Times and Gazette*; and again in 1866 in a book entitled *Diabetes; its Various Forms and Different Treatments*. Besides which the entire lectures were translated into French by M. Hahn, and published in Paris in 1875 by Delahaye under the title of *De l'Urine et des ses Altérations Pathologiques*. Notwithstanding which, in 1880, M. Lancereaux published an article in *L'Union Médicale* entitled "Diabète gras et Diabète maigre," thereby, not only adopting my two divisions, but merely parodying my words, without so much as alluding to my name in connection with the subject. However, this is of the less importance, seeing that he has failed to perceive that, not only is his nomenclature descriptively incorrect, but, at the same time, it labors under the disadvantage of not furnishing even so much as the remotest clue to the pathology of the two classes of cases it is supposed to signalize. Consequently it is both clinically and scientifically objectionable.

Were I asked to give types of the classes of the disease I would give hepatic diabetes as an example of that arising from excessive sugar formations, and pancreatic diabetes as that resulting from diminished consumption—malassimilation. It is with the former class alone I shall at present deal.

#### CASES ILLUSTRATIVE OF HEPATIC DIABETES.

CASE I.—The patient was 50 years of age, and being a member of the Semitic race, like most others of the well-to-do among his co-religionists,\* accustomed to indulge in rich foods, work hard mentally, and at the same

\*The number of Jews that suffer from diabetes is remarkable. In the *Asiatic Journal* of January, 1892, it is stated, on the basis of statistics collected in America, that, while among Christians only 2.74 males and 1.21 females per 1000 are affected with diabetes, no fewer than 19.85 males and 19.59 females among the Jews are victims to it. This, I believe, is in a great measure due to the proneness of Jews to liver diseases, the majority of cases of diabetes being of the hepatic variety.



time take very little muscular exercise.\* After listening to his history and examining him thoroughly, from finding his liver not only tender on pressure but enlarged to the extent of 6 inches in the right nipple perpendicular line, I diagnosed the case as one of hepatic diabetes, and gave a favorable prognosis; from believing that the sugar would decrease and ultimately disappear when the hepatitis subsided. The case was treated accordingly, with the result that within six months the sugar had so completely vanished that seldom more than the faintest traces of it were detectable.

Some five years or so afterward he got another attack, the quantity of the urine occasionally being as much as 80 ounces in the 24 hours and the specific gravity sometimes reaching 1040. The liver, though not sufficiently tender to merit the title of "inflamed," was nevertheless larger than it had been before; it seemed, indeed, now to be chronically hypertrophied. This relapse I then regarded, and still continue to regard, as being mainly if not entirely due to his having returned to his former habitual mode of high living. This second attack of diabetes lasted, with occasional intermissions in its severity, for nearly two years, without the sugar having been observed on a single occasion entirely to disappear.

He had no recurrence of the disease for nearly ten years, when he got another attack, which, although nothing like so serious or so prolonged as the second, was much worse than the first, the quantity of water passed being usually 70 ounces and of a specific gravity of 1036. He lived to be over 75, at last succumbing to an attack of bronchitis.

CASE II.—The next case I will allude to is that of a gentleman in whom the diabetic state was not detected till he was 65. When I first saw him he was passing 120 ounces of urine in the twenty-four hours, with a specific gravity of 1041; and the amount of sugar on March 26, 1891, according to the analysis of Mr. Alfred Wm. Stokes, F.C.S., was 24.3 grains per ounce. The case was, therefore, regarded as an unfavorable one for when patients pass over 2.920 grains of sugar a day, as this man did, they very often slip through one's fingers, no matter how they are treated. This patient had not brought on his diabetes by either overeating or drinking, for he was remarkably steady and simple in his mode of living, his only indulgence being a single glass of ale at dinner and a glass of whiskey, diluted with water, in the evening, along with a cigar. Nevertheless, as he had suffered, I was told, more or less from a disordered liver for at least six years, although there was

\* I have fully explained, at pages 18-24 of my book on *Inflammations of the Liver and their Sequelæ* (Churchill & Co., 1886), the proneness there is to hepatic derangements when an insufficient amount of muscular exercise is taken to consume all the ingested hydrocarbons of rich foods.

nothing detectably wrong with it at the time. His history was so distinctly biliary that I diagnosed the case as one of hepatic diabetes, and prescribed accordingly, giving him alkalies, jalap and iodine. This had an immediate beneficial result, for in five days the specific gravity of the urine had fallen to 1038, and the quantity to 100 ounces. The improvement went on more or less steadily for four months, the daily average amount of urine being less than 80 ounces, and the specific gravity a little over 1030. This is all the more noteworthy from the fact that the patient was not put upon a restricted diet, the only farinaceous food he avoided being potatoes. So much had he improved that in a little more than four months I gave him permission to take a trip to the United States, from which he returned in twelve weeks with a slight augmentation of his diabetes, but not much, as the specific gravity was only 1033, and the quantity 80 ounces in the twenty-four hours. He again rapidly improved under treatment, and I neither saw nor heard anything of him till January 21st, 1892, when Dr. Pocock, of St. Mark's Road, incidentally told me (while we were consulting about another case of hepatic diabetes) that the patient was then both looking and feeling perfectly well.

CASE III.—As I have alluded to this other case of Dr. Pocock's, I may say a few profitable words regarding it. The gentleman was 60 years of age, and living on his means, accumulated during a rather irregular life in the Australian bush. Dr. G. F. Grosvenor detected his diabetic condition in 1866, while he was under treatment for an attack of dyspepsia, and on a codeine line of treatment he greatly improved until strychnine was added to the prescription in somewhat ample doses. He was then not only seized with violent strychnine twitchings, but the amount of sugar in the urine became notably increased.

In 1883, that is to say three years before the diabetes was discovered, he had an attack of jaundice, and his liver had always been more or less troublesome since, while a couple of weeks previous to my being called to him he passed a gall stone. Dr. Pocock analyzed the urine (of which he was passing on an average 50 ounces, of a specific gravity of 1032), and found that it contained 12 grains of sugar to the ounce. From the patient having steadily improved after the consultation I heard nothing more of him for many weeks, when I again called on him, and told by Dr. Pocock that the sugar had almost entirely disappeared until ten days previously, when, in consequence of a mental upsetting, it suddenly returned as bad as ever.

CASE IV.—I first saw the patient (a temperate man, aged

59, living in one of the healthiest parts of Buckinghamshire) on February 3, 1890. His liver was hard, enlarged and tender; the urine, 110 ounces in twenty-four hours, was so loaded with saccharine matter as to assume the appearance of thin brown treacle on being boiled with caustic potash of a specific gravity of 1060. Notwithstanding this, with the removal of the hepatic physical signs, in three weeks the quantity of the urine fell from 110 to 80 ounces, whilst its specific gravity at the same time dropped from 1052 to 1026, and the amount of sugar was barely sufficient to turn the urine of a brown sherry color on boiling with caustic potash. By September 17 the quantity of urine had fallen to 34 ounces, and the specific gravity to 1020, with merely a trace of sugar detectable in it; while more surprising still is the fact that on July 9, 1891, the average amount of urine daily passed was only 26 ounces and the specific gravity 1017, with not a trace of sugar in it.

I heard nothing more of him till February 3, 1892. On that day I received from him a letter containing the following passages: "I feel I must write and let you know how I am. \* \* \* I am altogether a different man; in fact, I am perfectly well, and feel better than I have done for years past, and am increasing in weight. \* \* \* Dr. Reynolds can find no sugar in my water." This report led me to write to Dr. Reynolds (High Wycombe), and inquire if the patient's statements were actually true, as I feared he might be unjustifiably jubilant about his state. Dr. Reynolds at once returned to me a confirmatory reply. I neither saw nor heard anything more of the case till February 1, 1893, when he came to me again complaining of hepatic symptoms, the liver measuring over 5 inches in the right nipple line and being tender on pressure; the quantity of urine being only 30 ounces, and the specific gravity 1020. With the potash test there was merely a very slight darkening of the pale straw-colored urine and nothing more.

It may be well for me to mention that by far the most common cause of hepatic diabetes in temperate climates is the habitual use of stimulants coupled with rich foods. The reason of this is not far to seek, seeing that in 1853 I was fortunate enough to discover that animals could be rendered diabetic by the simple introduction of stimulants into their portal veins.\* So important were the real results considered by the Society of Biology of Paris, to which I communicated them, that it appointed a commission, consisting of Professors Bernard, Wurtz, Robin and Verdell to report upon them. And lucky it was that the society thus stamped them

\* *Recherches sur la Physiologie du Diabète Sucré: Nouvelle Méthode pour Produire le Diabète chez les Animaux, Comtes Rendus de la Société de Biologie de Paris, 1855, Vol. V.*

with importance, as it is due to the information obtained from them, and the subsequent equally successful results of Bernard, who induced saccharine urine in animals by simply introducing stimulants directly into the duodenum, that the modern teetotal system of treating diabetic cases originated, which has done so much to reduce the mortality.

Enough having been said regarding the hepatic diabetic cases of temperate zones, I will now give a sample or two of those thought to be traceable to liver congestions, resulting from chills caught in the tropics, as well as to injudicious tropical dieting. I have several, at different ages, that I might select from, but as the preceding cited cases have all been of persons of over 50 years of age, I will now only refer to those occurring in much younger subjects.

CASE V.—An Anglo-Indian was invalided home at 34 years of age, after thirteen years' residence in the tropics. He weighed 10 st. 8 lbs., was fair-haired and bright complexioned. He said that he had lived a very temperate life. When he first consulted me, on October 4, 1890, he was passing sixty ounces of urine of a specific gravity of 1035, containing from eight to ten grains of sugar per ounce. As his general health appeared good, and his liver only slightly enlarged, I considered the case a favorable one for treatment, and so it turned out to be; for so rapidly did the patient improve that within ten weeks the urine had diminished to a daily average of forty-three ounces, had a specific gravity of 1027, and no sugar was detectable in it. He was consequently allowed to return to India on January 16, 1891—that is to say, in less than three months of his landing in England.

CASE VI.—The patient, aged 32, was fair-complexioned and of good development. His father and one of his brothers died of diabetes, and an aunt of his, who is still alive and well, got rid of the same disease while under my care twenty years ago. The patient came to me direct from South Africa, where he had for several years been leading an active—I might say an arduous—life. Under treatment he rapidly improved, but imagining himself out of danger, and delighted at being home once more among his friends, he got careless of treatment, threw off restrictions, and began eating and drinking as if he were a healthy individual. Suddenly all the bad signs and symptoms returned. This led to my having a consultation with Dr. Pavy, who saw him several times afterward. The sugar again diminished. The amount of urine passed decreased, and his general health proportionally improved; but from being sadly deficient in moral control, and being surrounded by injudicious friends, no sooner did he feel himself better again



than he began, while at the seaside, acting as if he were a perfectly healthy man, and suddenly, after a day of excitement, exposure and fatigue, became prostrate and sick. This was soon followed by a drowsiness and coma, and he died within forty-eight hours after the onset of the serious symptoms. Unfortunately Mr. Hoffmeister, of Gosport, under whose care he was at the time, failed to obtain a *post mortem*, and, although only a supposition on my part, my familiarity with such cases leads me to believe that this, like the interesting case of the banker, narrated by my son, though it began as a purely hepatic case, gradually drifted into and terminated as one of pancreatic diabetes, an ending to the hepatic form of the disease unfortunately by no means rare.

In proof of the possibility of keeping cases such as were formerly regarded as perfectly hopeless alive and in comfort for many years, I will here give the sequel to the two typical cases related by me in my lectures published in 1865,\* the one of whom, the lady, is still alive, while the other only died in 1890, that is to say, no less than thirty years after he first came under my care; he must in reality have lived at least thirty-two years while suffering from the disease. The survivalship in this case is all the more remarkable, seeing that the diabetes was so inveterately constitutional that one of his sons manifested it before the third and the other before the fifth year of his age, although he himself was well enough to be able to perform the duties of a clergyman up to within a very short time of his death.

#### PROGNOSIS.

After having carefully weighed the prospects of life according to the form of the diabetes under which the patient labors, the next things to consider are the respective values of certain signs and symptoms which may possibly furnish a clue to the longevity in each particular form of the disease. If there be absolutely no loss of flesh taking place, I boldly say that I believe the patient, with care and attention to medical rules, especially if I have diagnosed the case as one of diabetes from excessive formation, may live for years. The earliest sign which causes me to take a gloomy view of a case is loss of flesh. When the loss of flesh is very gradual, the patient may live a year or two, but when the emaciation is markedly progressive I estimate the chances of life by months only. The next sign to which I attach importance is the appearance of acetone in the urine, for when acetone is detectable by the perchlorid of-

\*The cases will be found in full in my "Lectures on the Urine and its Derangements," in the *Med. Times and Gaz.* of 1865, as well as in my book on *Diabetes; its Various Forms and Different Treatments*, published by Walton & Maberly in 1866.

iron test the patient usually dies within six months. There are, however, exceptions to the rule.

CASE VII.—The patient, a free living, military man, aged 39, was sent to me on November 4, 1891, by Dr. Molony, of Billingsgarry. The case from the first was regarded as a bad one, for the quantity of urine was 10 pints (200 ounces), specific gravity 1035; and he had begun to lose flesh two years previously. Indeed, when he came to me I looked upon it as utterly hopeless. He stayed a fortnight in London, and I was pleased to be able to send him back to Ireland considerably improved. The improvement went on for a time, but a change for the worse took place, and Dr. Molony sent him back to me in the summer of 1892. A letter, dated June 15, preceded him, in which occur the following passages: "He started yesterday morning for London to do the journey in easy stages \* \* the urine is 80 ounces, and the specific gravity 1831, and 10 per cent. of sugar.\* Acetone present." I may mention that Dr. Molony first discovered acetone in the patient's urine on December 14, 1891.

On arriving at Dublin he was so weak that Dr. Myles tried to dissuade him from continuing his journey. But that he refused to do, and came on to London. When I saw him, on June 20, he was then so upset by the fatigue of the journey as to be in a most pitiable state. Not only had the quantity of the urine increased to 6 quarts (240 ounces), but its specific gravity to 1035, and it contained an abundance of acetone. Besides which he was livid, breathless, emaciated, and so weak as to require to be assisted into his brougham. I had him weighed a few days after his arrival, and though he was a man of 5 feet 11 inches in height, he weighed only 7 stones 8 pounds, his normal weight being 13 stones. All this led me to think the end was nigh. Yet, marvelous to relate, such an effect had a change of medicine and diet upon him, that he not only once more rallied, but by August 10 that is to say within two months, the urine had diminished to 80 ounces, its specific gravity varying from 1026 to 1830, and the acetone almost entirely disappeared. At the same time he had increased from 7 stones 8 pounds to 9 stones 1 pound† in weight, and so greatly improved in strength that he was able to walk a mile up the less steep part of Hampstead Hill. During these two months I had only allowed him ordinary diet, but given him four and a half ounces of cod liver oil daily, with alkalies and honey as well.

\* In a letter dated November 20, 1892, Dr. Moloney told me that on April 4, 1892, he had found forty-one grains of sugar to the ounce in the patient's urine.

† To those familiar with the clinical history of diabetes, this regaining of two and one-half pounds weight per week is not the least remarkable feature of this unusually remarkable case; seeing that, notwithstanding having never carried any superabundance of flesh, he was still alive, after having lost 44 per cent. of his normal weight—a most exceptional circumstance under such conditions.

On leaving town for my holiday I placed him under Dr. Ralfe's care, but he only saw him once. On my return, two months later, I found he had had a severe relapse. His urine had again a specific gravity of 1033, and was about six quarts in quantity, with abundance of acetone in it. He again improved, and on November 13, 1892, when I saw him along with Dr. Payne, of Hampstead, he was passing three and one-half pints of urine of a specific gravity of 1033, with only the faintest trace of acetone in it. His thirst had subsided, and both his pulse and his general condition were fairly good.

This is no doubt a very exceptional case, for instead of the patient dying, as one would have expected, within six months after the acetone was detected in his urine, he actually lived nearly a year, as he did not die until November 21, 1892. His death occurred most unexpectedly. In the evening before he had expressed himself as feeling very much better; indeed the words he used were "getting on splendidly." Nevertheless he died in the morning in a state of syncope, in getting suddenly out of bed.

A still more unfavorable sign than acetone is, to my way of thinking, the advent of an ethereal apple-like odor of the breath. When that sets in I at once reduce my estimate of the prospect of life to weeks. For the odor conclusively shows that the blood is impregnated with diacetic and oxybutyric acids—the unmistakable harbingers of death. But even here one is liable to be mistaken, as I have known in very exceptional cases not only the ethereal odor of the breath, but even repeated threatenings of diabetic sickness, set in several months, six and more, before the patients succumbed.

A further warning of the approaching end we have in the appearance of aberration of intellect and drowsiness. I look not only on the drowsiness, but the terminal sickness and vomiting, in fatal cases of diabetes as but ocular evidences of the toxic action upon the nervous system of retained excrementitious saccharine substances and decomposing matters in the circulation, as has been pointed out by Dr. Vaughan Harley.\*

Finally, when in addition to the aberration of the intellect and drowsiness the breathing becomes embarrassed, coma invariably rapidly follows, and within the brief space of a few hours the curtain falls and ends the scene.

#### HINTS ON TREATMENT.

A highly significant and most important change in the treatment of diabetes has come about since experimental investigation revealed the seat of the animal saccharine function and me of the causes of its increase and diminution.

\* "Pathogenesis of Diabetes," *British Medical Journal*, August 6, 1892.

When first I entered the arena as an experimentalist on diabetes there existed but four salient factors in the treatment of the disease: restricted diet, opiates, stimulating tonics and alkalies.

Now, thanks to the knowledge derived from experimenting upon animals, all this is changed; and with the change has come about, not only an immense diminution in the death rate, but likewise a decrease in the number of remedies propounded for its cure. Formerly the number was legion. Opium, morphine, codeia, belladonna, cocaine, strychnine, phosphorus, valerianate of zinc, tincture of iron, iodide of potassium, sulphide of calcium, salicylate of soda, antipyrin, turpentine, jambul seeds, jaborandi leaves, bilberries, salol, pilocarpin, sulphonal, ergotin, nitro-glycerine, creasote, iodoform, sulphocarbolate of soda, liquor potassæ, bromide of ammonium, alkaline citrates, nitric, lactic, carbolic, hydrochloric and hydrobromic acids.

Added to this, we are told that the application of blisters to the epigastrium, galvanism to the spine and massage to the limbs, as well as the employment of Vichy, Carlsbad and some other mineral waters, together with a free use of peptonized food, have only to be persevered in sufficiently long to effect an almost certain cure.

As in the above list there are remedies the very antitheses of each other—both as regards chemical constitution and physiological action—one might be tempted to exclaim, “What an absurdity!” Yet, strange to say, there is no absurdity!” about the matter, the seeming discord being but harmony not understood. For, as we have seen, there being two distinct and diametrically opposed causes for the accumulation of saccharine matter in the blood, which leads to its elimination by the urine, there must be equally two opposing sets of drugs employed in remedying it. Hence, it is that in the very inconsistencies in the action of the remedies lies their therapeutical strength. Consequently, when judiciously selected and appropriately administered each opposingly-acting drug contains in it an essence of wisdom, which leads to successful treatment.

Since the sugar is only the visible sign of the invisible faulty chemistry that requires to be set to rights, we no longer attach the same importance to the diminution of the sugar which invariably takes place when a patient is subjected to restricted diet. A diminution in the quantity of sugar daily eliminated by a diabetic is not an infallible sign of improvement, the output of sugar being only a trustworthy sign when considered in connection with other things. This is proved by



the fact that even in severe cases of diabetes the sugar occasionally totally disappears from the urine when the patient is attacked with acute disease, such as typhoid fever or inflammation. The same thing has been observed to occur after severe accidents and grave surgical operations, while it not infrequently happens that, if the disease be sufficiently severe to terminate fatally, not only has the excretion of sugar by the kidneys been noticed to be arrested before death, but even the liver after death has been found devoid of glycogen.

As far as I am aware, no one has yet ventured to explain this curious phenomenon, so I may as well give my idea of the matter, which is: (1) The sugar only disappears from the urine in the case of diabetes arising from excessive saccharine formation; (2) its appearance is due to the depressing effects the superadded acute disease or injury has upon the sugar-exciting formative nerve power, precisely in the same way as nerve shock, either the result of mental emotion or physical injury, arrests the secretion of bile.\*

The line of treatment I recommend to be pursued is in every case to begin by putting the organ supposed to be at fault to rights, be it liver, nervous system, or pancreas, at the same time—as the liver is the sugar manufactory of the animal body—always taking care that the biliary functions are in good working order. In the next place endeavor to raise the general health of the patient to its highest possible standard by giving him plenty of fresh air and healthy muscular exercise within the margin of fatigue, and keeping away from him all mental and bodily lowering influences.

In cases of diabetes the result of excessive sugar formation, as all hepatic cases are, a restricted diet is essential; but to wholly stop the saccharine supply is not what is wanted. For were we to do so we would arrest every function of animal life, for a certain amount of sugar is absolutely essential to their proper performance. A healthy man of about thirteen stone weight uses up daily no less than two pounds of sugar.†

In diabetes from excessive sugar formation there is manufactured over and above it sometimes as much as two pounds or three pounds in the twenty-four hours; and as this additional amount is not required for the wants of the system, it is eliminated with the urine as so much useless material. Consequently it is not the normal and requisite two pounds, but the abnormal and not required two or three pounds more of sugar that the

\* I have entered fully into this point (pp. 73-78) in my book on *Diseases of the Liver*.

† It is surprising how much sugar a healthy person can assimilate. Dr. Vaughan Harley, while working with Professor Dastre at the Sorbonne in Paris, took 400 grammes (13 ounces) of cane sugar daily until he completely upset his digestion, without any ever appearing in the urine. And again, while working with Professor Mosso at Turin, 500 grammes (17½ ounces), with a similar negative result; and this he regards as due to the fact that not only was he healthy, but at the same time taking active muscular exercise.

non-starchy diet is intended to prevent being formed. It is with this object that a proteid diet is given in all cases of diabetes due to excessive sugar formation, for the liver can manufacture sufficient saccharine matter out of proteids for the wants of the system without there being run much risk of its manufacturing a superabundance. The following table indicates the general principles of dietary I adopt in cases of diabetes from excessive sugar formation:

#### MAY EAT.

*Meats.*—Beef, veal, mutton, lamb, pork, venison, hare, rabbit, and all kinds of feathered game and poultry; fat bacon, ham, salted beef, tongue and tripe. Eggs—raw, boiled, poached or fried. Butter, Devonshire cream, and cheese of any country and kind.

*Fish.*—All kinds of sea and freshwater fish—boiled, fried, stewed or broiled, including eels, smelts, whitebait, crabs, lobsters, prawns, shrimps, as well as sardines and anchovies—fresh, salted, and in oil or butter; kippered herrings, bloaters and smoked or dried haddocks.

*Soups.*—Animal soups of all varieties—oxtail, gravy, hare, turtle, eel, prawn, clam, chicken, grouse and other game soups; bovril, beef-tea, Liebig's extract, Valentin's meat juice, Brand's essence, and such like animal soup preparations.

*Cooked Vegetables.*—Cabbage—white and red, cauliflower, Brussels sprouts, spinach, turniptops, greens, sorrel, Jerusalem and leaved artichokes, broccoli, tomatoes, onions and mushrooms.

*Uncooked Vegetables.*—Lettuce, chicory, endive, dandelion, celery, shalots, watercress, sorrel and tomatoes, either simply with salt or made into salad; in the latter case lemon juice should be used instead of vinegar, with plenty of oil, but very little pepper.

*Puddings.*—Egg custard, calves'foot, gelatine, isinglass, Irish and Iceland moss jellies and blancmanges, flavored with salt or sweetened with saccharin.

*Breads.*—Gluten and bran breads\*—plain or toasted gluten rolls, cracknels, almond, cocoa-nut and bran biscuits, gluten sponge cakes, as well as rusks; all of which, carefully prepared, may be obtained from Collard, 146 New Bond street; Blatchley, 167 Oxford street; Van Abbot, 6 Duke street, Grosvenor Square; Bonthron, 106 Regent street, and elsewhere.

\* If the bread be well prepared, and free from starch, it does not become either of a violet or a blue or blue-black color, but only of a reddish brown, when iodine water ( $\frac{1}{4}$  tinct. iodine plus  $\frac{3}{4}$  distilled water) is applied to it. The depth of color indicates the amount of starch present.

*Fruits*.—Oranges, limes, lemons, shaddocks, olives, pine-apples, bilberries, raspberries, blackberries, red and white currants.

SHOULD AVOID EATING.

All wheaten, barley, oatmeal, or other forms of ordinary bread; pastry, pie-crust, dumplings, pancakes, porridge, as well as all kinds of farinaceous puddings—sago, rice, semolina, cornflour, arrow root, revalenta, malts, and maltine in any shape; likewise, *paté-dé-foie gras*, and, indeed, liver in any form. Asparagus,\* potatoes, peas, beans, lentils, beetroot, parsnips, carrots and turnips, rhubarb—stewed or in tarts—chestnuts, raisins, prunes, and dried figs.

MAY BE PARTAKEN OF IN GREAT MODERATION.

Oysters, mussels, clams, vegetable matter, sea-kale, radishes, cucumber, green French beans, melons, apples, pears, peaches, apricots, grapes, gooseberries, strawberries, and cherries; likewise almonds, filberts, walnuts, and hazel nuts.

Skim milk was thought by Dr. Donkin to fulfil by itself all the objects aimed at in restricting or totally excluding the use of farinaceous foods; but when milk is given, as given it may be freely, it is much better to give it fresh than skimmed. For in giving the latter you not only give all the saccharine matter which normal milk invariably contains, but at the same time you deprive the patient of its non-sugar forming, highly nutritious, oleaginous ingredients constituting the cream.

The above form of dietary for diabetes due to excessive sugar formation requires considerable alteration in order to make it suitable for that due to diminished saccharine consumption—malassimilation. It is necessary to supply to the body such easily assimilable foods as will retard emaciation, while they at the same time keep up the vital powers of the patient. Hence in these cases, not only fresh milk, but cream, butter, and even codliver oil should be given freely, and when greasy stools are met with, as in the pancreatic variety of the disease, from there being an absence of pancreatic juice, give along with the oil either liquor potassæ or carbonate of soda dissolved in glycerine in order to emulsify the fats, and thereby render them more absorbable by the intestines. Not only so, but when the loss of flesh and strength is great, as it is not the presence of the sugar in the circulation, but the want of its assimilation, which causes them (as by increasing the supply of

\* Asparagus, eaten in large quantities, induces a flow of saccharine urine—an actual glycosuria even in healthy men, as I found by experimenting upon myself. See my lectures on the Urine and my book on *Diabetes* already referred to.

the wanted nutritive material you augment the chances of its assimilation), do not hesitate to give freely the most readily assimilable saccharine substances, namely, honey and pure cane sugar. Kulz even recommends lævulose, the exact analogue of diabetic sugar.

For similar reasons, when patients suffering from excessive sugar formation begin to lose flesh and strength, and show signs of mental weakness, at once relax the severity of the restricted diet, and allow them toasted brown bread, along with fats and plenty of green vegetables and fruit.

Two different kinds of mineral water are useful to diabetics, the saline purgative, and the alkaline non-purgative waters. The beneficial action of purgative mineral waters is best seen in cases of diabetes from excessive formation, and is due to precisely the same cause as a restricted diet—namely, to reducing the saccharine supply. If the ingested food be swept out of the intestines, before its nutritive ingredients have had time to be taken up by the intestinal absorbents, it might just as well never have been swallowed, in so far as furnishing materials to the liver to manufacture sugar with is concerned. Alkaline non-purgative mineral waters act by virtue of their alkalinity, in precisely the same way as liquor potassæ and carbonate of soda, namely, by emulsifying the fatty matters of the food and thereby increasing their absorbability by the digestive canal, and thus conducing to retard emaciation and death. Hence their advantages are seen best in the diabetes from diminished consumption of pancreatic cases.

I now approach the most important form of liquid ingesta, the alcoholic. None but those having had much experience of liver diseases and diabetes can have the faintest idea of the powerful influence alcohol has in the production of both of them. It is not the drunkard, but the self-styled moderate drinker class, which shows this the most potently. Of all the exciting causes of diabetes with which I am acquainted I give the palm to spirits. It matters little whether they be taken under the name of arrack, brandy, gin, rum or whiskey, their effects are identical; and, what is more, one often finds that diabetics, though not “nippers” themselves, come of a drunkard stock.

Before I was so lucky as to discover that alcohol introduced into the portal circulation of dogs induced glycosuria, it was the routine and almost invariable practice to try to sustain the strength of diabetic patients with alcoholic beverages. But no sooner did my researches become known, and Bernard had further shown that dogs could be rendered diabetic by alcohol introduced into the duodenum, than the stimulant plan of treat-



ment gradually began to be discontinued. Dogs pass sugar in their urine in the brief space of two hours after stimulants are injected into their portal veins. For these reasons I counsel the discontinuance of all alcoholic beverages, distilled as well as fermented, whiskey, brandy, rum, gin, arrack, port, sherry, Madeira, Marsala, Champagne and Burgundy; ale, stout, porter and cider, as well as all varieties of liquors, as being more or less detrimental. Only in very exceptional cases do I advise in cases of diabetes the use of an alcoholic drink, and that is when weakness and loss of appetite show themselves in cases of diabetes from excessive formation, and increasing debility is a marked symptom in those due to diminished saccharine assimilation. Then, and then only, do alcoholic stimulants do good instead of harm.

As all diabetics suffer more or less from thirst, I am not one of those who prohibit their drinking bland liquids—tea, coffee, lemon squash, koumiss, soda, puralis, and Salutaris waters, as well as milk, with or without aerated water added, beef tea, bouillon fleet, bovril and Liebig's extract. In cases where the thirst is annoying to the patient I bid him acidulate iced aerated water with a few drops of lemon juice or of dilute phosphoric acid, and slowly sip it. Phosphoric acid seems to me to quench the craving for fluids better than anything else.

First, as regards the drugs that act beneficially in diabetes the result of excessive sugar formation. These are all of the narcotic and anodyne class—opium, morphine, codeine, hyoscyamus, cocaine, bromide of ammonium and such like. And they act, I believe, by virtue of the power they possess of reducing hepatic nerve activity. This opinion is justified by reasoning from analogy, and the fact that the output of sugar is reduced during their employment. Opium, morphine and codeine do not always produce equally beneficial results in apparently identical cases, nor even in the same case at different times. Codeine, for example, may give unsatisfactory results where morphine is found potently useful, and, where both have failed, crude opium may produce the desired effect. It is a common practice to go on augmenting the dose of the narcotic in proportion as it loses its beneficial effect. In this way patients have been given from 10 to 20 grains of codeine and 20 to 60 grains of opium in the twenty-four hours. This, in my opinion, is a highly reprehensible mode of practice, as I have more than once heard of cases in which it has been followed by disastrous results. Whenever I find  $1\frac{1}{2}$  grain of codeine or a couple of grains or so of opium for a dose producing little or no effect, either in reducing the amount of the

urine or its specific gravity, I think the failure is most likely due to my not having selected the form of narcotic suited to the case.

The beneficial effects of croton chloral often surprise me, but I seldom or ever give it except in combination with a vegetable narcotic or anodyne. As an example of the good effect it sometimes exercises on a case of diabetes, I may mention that, given in conjunction with opium, in Dr. Molony's case of the Major already cited, the quantity of urine was not only reduced from  $1\frac{1}{2}$  gallons to  $3\frac{1}{2}$  pints in the short space of twenty-three days, but at the same time its specific gravity fell from 1036 to 1030—a result so favorable that I fancy the reader will ask for a formula, in the hope that he may by its aid be equally successful. To give a single formula that will answer in every case of a protean disease like diabetes is, however, out of the question; so all I will do is to give the one employed in the case just alluded to. It is the following:—  
℞ Croton chloral, gr.  $\frac{1}{2}$ ; opii, gr. j; ext. aloes barb., gr.  $\frac{1}{8}$ ; ext. gentianæ, gr. iss. M., one pill to be taken three times a day.

In cases of diabetes the result of nerve depression, as well as those arising from pancreatic disease, I find strychnine of great service when given in the form of nux vomica extract in  $\frac{1}{4}$  gr. doses three times a day in a croton chloral pill combination. Indeed, it seems to me that everything tending in any way to improve the general health in such cases is of benefit to the patient. Hence not only strychnine and quinine, but likewise mineral acids—notably phosphoric and nitrohydrochloric—are of service. Antipyrin I once or twice found very useful, as well as occasionally the peroxide of hydrogen.

Should non-success follow upon the treating of diabetic cases upon the principles inculcated, I trust before they are condemned the reader will kindly reflect that he may have erred either in the differential diagnosis of the case, or in his selection of the remedy employed for its cure.—*British Medical Journal*.

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#### HEALED OR ARRESTED PULMONARY TUBERCULOSIS.

It is very probable that there are persons with tubercular affections that go through life apparently healthy without ever being aware of any tubercular trouble. Even where there are tubercular deposits in the lungs, it is not hard to imagine, with our knowledge of pathology, that the patients may, under favorable circumstances, get entirely well and never suspect any grave affection. We have all seen in the dissecting and post-

mortem room cases of apparently healed tubercular foci in the lungs, the patient having died of some other trouble. A very instructive discourse on this subject we find in the *Journal of the American Medical Association*:

Laennec concludes his classical statement with reference to the possibility of cure of pulmonary tuberculosis, and the changes that occur in arrested foci, as follows: I think that the cure of consumption ought not to be looked upon as at all impossible in reference to the nature of diseases, or of the organ affected. Since Laennec's time observations of all kinds have accumulated showing that, in a comparatively speaking very large number of instances of pulmonary tuberculosis, arrest and even permanent cure of the destructive process ensued. Quite a number of systematic studies of the evidences of healed tuberculosis have been carried on by men in position to constantly examine a large number of bodies of individuals that died from sudden or violent causes, as well as otherwise, and quite a lot of statistics bearing upon this interesting subject have accumulated during recent years.

Thus Vibert found that 17 out of 131 persons dying from sudden or violent death whose bodies were brought to the Paris morgue, showed evidences of cured tuberculosis; Sidney Martin found 42 cases of healed tuberculosis of the lungs in 445 post-mortem examinations; Heilter found 789 cases of obsolete tubercle in 16,552 autopsies—*i. e.*, 4 per cent.; Fowler found arrested pulmonary tuberculosis in 177 out of 1943 sections at the Middlesex Hospital. Incidentally it is very curious and also interesting to note that all these last three observers found the most frequent cause of death among the instances of healed pulmonary tuberculosis to be carcinoma; the relation between carcinoma and healed tuberculosis is consequently very striking and ought to merit further clinical as well as anatomical study. H. P. Loomis found in 763 persons dying of a non-tubercular disease 71, or over 9 per cent., which presented pulmonary changes characteristic of healed tuberculosis.

These statistics abundantly indicate that, from the standpoint of the morbid anatomist, the dread disease of pulmonary tuberculosis presents itself as quite amenable to arrest and cure, at least much more frequently so than the general impression of practitioners would seem to warrant. It would be of great value if this question could be studied from the clinical side as well, so that we could learn more definitely and precisely the exact conditions and facts with reference to those in whom the disease is arrested, but this is of course almost impossible, except in isolated instances, because of the length of time that intervenes between the clinical manifestations of the disease and the death and autopsy.



Since Laennec's time it has been known that the histological processes which result in the arrest and cure of pulmonary tuberculosis are embraced in a general way under the terms fibrosis or fibroid induration; an area is formed of so-called pigment induration, scattered through which or in the centre of which are calcareo-caseous masses, and the area replaces the focus of typical tubercular granulations. The walls of healed cavities consist of dense, thick, pigmented fibrous tissue, and the more or less retracted space may or may not communicate with a bronchus; usually there are pleuritic adhesions and puckering in the pleural surface of the lung over the healed tubercular district, which in the vast majority of instances is found in the apex. It was generally thought that in the majority of cases of healed tubercular areas in the lungs the tissue composing the areas may be regarded as free from tubercle bacilli; Loomis, however, found that in three out of twelve cases of apparently arrested tuberculosis, inoculation experiments with rabbits showed that bacilli, or more likely their spores, were still present in the tissue.

This demonstration consequently shows that the disease may remain latent for an indefinite length of time, and it suggests the possibility that bacilli might escape from such areas during life and give rise to acute tubercular processes in various parts of the body which might be justifiable under certain circumstances to trace to the apparently healed pulmonary focus. It would seem very advisable that this subject of healed or arrested pulmonary tuberculosis be studied still more in the direction indicated by Loomis; all foci that look like areas of healed disease should be studied experimentally by means of inoculations into suitable animals, because that is the only method of demonstrating positively the absence or presence of active, pathogenic germs. It would be interesting to know, for instance, whether the bacilli present in areas of slaty, fibroid induration are as virulent as bacilli from foci where destructive changes are going on; perhaps novel facts bearing upon the conditions that result in the arrest of the process might be obtained in this way.

It would also be of great interest to study the condition of the lymphatic glands at the root of the lungs in the cases of arrested phthisis, with reference to the absence or presence of tuberculosis or tubercle bacilli, so as to show what bearing the state of affairs in the glands might have upon the development of tubercular processes in other parts of the body of those who present healed pulmonary foci, because Heitler found in his statistical study that 106 of his 789 cases of absolute tubercle died from tuberculosis elsewhere than in the lungs.—*Med. Review.*



## SURGERY.

## THE PRESENT POSITION OF THE SURGERY OF THE PROSTATE

Was the first paper, by Dr. J. William White, of Philadelphia. In regard to the nature of the prostatic enlargement, it was held that the prostate gland was a part of the sexual apparatus and not chiefly an accessory organ of micturition, and that the growth or growths which make up the enlargement are analogous to the fibro-myomata so frequently found in the uterus.

The changes in the bladder are due to the mechanical obstruction, the circulatory disturbance produced by pressure on the prostatic veins, and to septic infection.

The symptoms of prostatic enlargement were discussed at length. In regard to treatment, purely expectant treatment is proper only where the enlargement has produced no symptoms and catheterization is easy and shows no residual urine. Ergot is the only drug that offers any prospect of usefulness, but it is far from demonstrated that it has any distinct effect. Palliative treatment, consisting in the systematic use of steel sounds for dilatation and the employment of the catheter, is of great value in a large number of cases.

The following operative measures were discussed :

1. Overstretching of the prostatic urethra. This is not likely to be followed by good results in cases where the median lobe and the vesical neck are chiefly involved. In lateral hypertrophy, where the urethra is simply narrowed, it may be of use. 2. Perineal prostatotomy should be regarded as that of choice in cases in which, with marked diminution of the expulsive force and with cystitis, there are evidences of widespread degenerative disease or of distinct renal disease, toxæmia, and general feebleness. 3. Perineal prostatectomy, where the growth can be reached by the finger and is of small size or pedunculated, perineal prostatotomy can always be converted into a prostatectomy. 4. Supra-pubic prostatectomy is the operation to be preferred in those cases in which, palliative treatment having failed, there are unmistakable indications that the local conditions are growing worse, the general health remaining unaffected.

In conclusion, the speaker said that some time ago the thought occurred to him that possibly, if the analogy between uterine fibro-myomata and prostatic growth was a real one, castration might have the same effect upon the latter that oöphorectomy does upon the former. At that time he had not read of the alleged prostatic hypertrophy in eunuchs, geld-

ings, etc. He instituted a series of experiments on dogs to determine the effect of castration on the size of the prostate. It was found that the average weight of the prostate in dogs was 35.3 grammes. The dogs were killed at varying intervals after the operation, the lowest period being seventy-two days, and in all there was a marked diminution in the weight of the prostate, the gland varying in weight from 2.5 grammes to 5.5 grammes, according to the weight of the animal and the period at which it was killed.

The author did not wish to be understood as advocating the measures which these studies would indicate. He simply presented the subject as a line of thought which had occurred in his mind at odd times in order to have the criticism of the association. As regards the employment of castration as a therapeutic measure in prostatic hypertrophy, the final answer must be left with the patient. If the time comes when we can promise equivalent results to those obtained by oöphorectomy in uterine fibroids, there will probably be no lack of cases willing to submit to the operation.—*N. Y. Med. Record.*

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## THE IMPORTANCE TO THE SURGEON OF THE BACILLUS COLI COMMUNIS.

By DR. ROSWELL PARK, of Buffalo.

The literature relating to the colon bacillus was thoroughly reviewed and evidence presented showing that this organism, which is constantly present in the intestinal canal, is not always a harmless inhabitant, but becomes at times an active invader, and does not confine itself to the intestinal mucosa, where it may set up most active desquamative lesions, but may pass this barrier and penetrate into the general circulation, and exercise pernicious activity in numerous other organs and toxic effects upon the system at large.

Herniary cholera, so called, is due to intoxication from the products furnished by the organism in a virulent condition. From the intestinal canal the colon bacillus may ascend along the biliary passages, determining lesions in the gall-bladder or liver. It is known to be one of the frequent factors in peritonitis of intestinal origin. In the kidneys as well as in the bladder the colon bacillus may exert pathogenic properties. The organism may be introduced from without, as upon a catheter, or may be transferred from its normal habitat by some traumatism of the natural channels. The endocardium, the meninges, the pleura, articular serous membranes, and the lungs are at times not exempt from the manifestation of its

activity. It is probable that there is a form of post-operative septicæmia due in no direct way to the operator or operation, but is in fact what has often been called an entero-sepsis, and due to the migration from the intestinal canal of the colon bacillus. Constant attention to the intestinal canal should therefore be the watchword of the surgeon, both before and after operation.

The author reported six cases from his own practice in which the colon bacillus was found, and in some instances it was the only organism present. The cases were as follows: (1) cancer of intestine with abscess; (2) recurrent peri-appendical abscess; (3) acute abscess of the liver; (4) gangrenous appendicitis, with perforation and obstruction of the bowels; (5) cholecystitis suppurativa.—*N. Y. Medical Record*.

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#### WHEN SHALL WE REMOVE THE VERMIFORM APPENDIX?

By JAMES M. BARTON, A. M.

Surgeons still differ on this subject; generally, I think, they are removing the appendix less frequently than they did, though some still remove it in nearly all cases, and one, whose article has recently been widely copied, considers all operations insufficient in which the appendix is not removed.

As I have been much less fortunate in those cases where I have removed the appendix than when I have permitted it to remain, I do so less and less frequently, so that now in those cases where there is a circumscribed abscess, with no general peritonitis and no symptoms of intestinal obstruction, I do not search for nor remove the appendix.

During the last year I kept a record of the cases that came under my observation, and find that in nine cases of abscess of the vermiform appendix, which were operated upon and where the appendix was not removed, all recovered.

The object of removing the appendix, as I understand it, is to get rid of an inflamed, ulcerated mass, filled with pus-producing micro-organisms, the source of local suppuration and of possible general septic peritonitis. Its base is ligated to prevent fecal matters getting into the wound, and to avoid the possibility of a stercoraceous fistule remaining after recovery.

In the class of cases that I speak of, where the appendix has already ruptured and a localized abscess has occurred (and this is the condition found in most of the cases on which we operate), portions of the appendix have already become necrosed, the sloughs have separated and will be discharged with the pus. The leucocytes have destroyed the germs in the re-



mains of the appendix, which lies buried in the inflammatory deposits surrounding the abscess.

There is but little danger of fecal matters making their exit through the appendix, as the opening of the appendix into the bowel has long been firmly closed, closed as firmly as a ligature would close it. If it were not so, the pus would never have broken through the walls of the appendix, or having broken through the resulting abscess would not have increased in size, but would have emptied itself through the appendix into the bowel. In none of the nine cases quoted has any fecal fistula remained.

As further evidence of the strength of the obstruction at the opening of the appendix into the bowel, I may mention two cases that recently came under my observation, where fecal fistula followed natural cures. In both cases the natural opening at the appendix was found firmly closed, and the fistulous openings, when followed, were found to enter the bowel some inches away from the appendix, the pus having broken through the healthy portion of the colon in preference, showing that the inflammatory obstruction was stronger than the healthy intestine.

By not searching for the appendix, the time of the operation is much lessened, the shock is less, and the bleeding less, the granulation tissue bleeds quite freely when torn by the finger searching for the appendix. The drainage tubes and gauze keep their place better when the walls of the abscess cavity are unbroken. When they are broken it is difficult to keep the drains in contact with the ligated stump, and I regard the loss of a patient, on the fifth day, on whom I recently operated, as due to this cause.

The two most fatal complications after operation are septic peritonitis and intestinal obstruction. There is, of course, much less danger of general septic peritonitis if the adhesions be not broken down, as the pus can be much more readily kept away from the general peritoneal cavity.

Intestinal obstruction, in appendicitis, is an accidental complication caused by the manner in which the intestines surrounding the abscess are glued together, and bears no relation to the size of the abscess, and but little to the extent of the inflammatory deposits surrounding it. In operating upon a case in which there are evidences of obstruction, if the obstructing portion of the bowel could be identified, it should be liberated. If it can not be identified, then, after the abscess is emptied and its cavity disinfected, all adhesions should be separated, with the hope that when they are reunited, as reunite they must, they would do so in such a manner that the calibre of the



intestine should be unobstructed. Under these circumstances the appendix should be removed.

If there were no symptoms of obstruction before the operation, if we separate the adhesions in the search for the appendix, when the adhesions reunite they may do so in such a manner as to cause complete obstruction; this was the cause of death in a patient on whom I operated last September for Dr. Chandler, of Centreville, Del. The original article then gives a brief history of each of the cases of circumscribed abscess on which Dr. Barton has operated during the year without removing the appendix. They all recovered and in none was there any fistule remaining.

The writer then gives a description of one of the operations performed November 29, 1892, from which we quote: "The abdomen was opened by the usual incision, the movable intestines being carefully held back by aseptic gauze. The location of the abscess was found and the site of the intended opening was entirely surrounded by gauze, completely barring off the general peritoneal cavity; the abscess was then opened by tearing through the adhesions with a grooved director. Two and a half ounces of pus was removed, as well as a foreign body that looks like a date-stone.

"The appendix was not seen, nor was it searched for. Three or four of the upper layers of gauze, which were slightly pus-stained, were removed and the rest allowed to remain. Two large drainage tubes were placed with their ends in the abscess cavity and the wound closed over the gauze, leaving only the ends of the drainage tubes protruding. Three days later the stitch next the drainage tube was cut and the gauze drawn through a very small portion of the wound. It was in three strips, together measuring five feet long by four inches wide. The other stitches were not removed until the eighth day, in order to avoid a hernia. The patient made an uninterrupted recovery, the abscess cavity healing rapidly and completely, leaving no fistule and no hernia." This patient was examined May 20, 1893. There was no hernia, no fistule, no tenderness, and no deposit to be felt in the right iliac fossa, and her general health was excellent.

In summing up the following conclusions are reached:

1. An unruptured appendix, distended and discolored, should be removed.
2. When rupture of the appendix into the general peritoneal cavity has occurred, the appendix should be removed and the abdomen flushed.
3. When a localized abscess that has existed for some days or weeks has ruptured into the general peritoneal cav-

ity, the appendix should be removed and the abdomen flushed.

4. When adhesions have formed to the abdominal wall, open the abscess and drain, being careful not to break the adhesions that separate the abscess cavity from the general peritoneal cavity. The appendix should not be searched for nor removed.

5. When symptoms of obstruction are present empty the abscess, with the general peritoneal cavity well protected with gauze, disinfect the abscess cavity, then examine for the adhesion causing the obstruction, and if able to identify it separate that adhesion only. If it can not be identified, then separate all adhesions and remove the appendix.

6. When abscess has formed and there is no general peritonitis or symptoms of obstruction open the abdomen, protect the general peritoneal cavity with gauze, then open the abscess and drain, do not search for nor remove the appendix.—*Med. Record.*

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## Book Reviews and Notices.

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*Diseases of the Skin.* H. Radcliffe Crocker, M. D., London. P. Blackiston, Son & Co., Phila. Price \$5.00.

This is the second edition of Dr. Crocker's work, just out. The first edition appeared in 1888. In the past five years dermatology has made mighty strides. The numerous changes and additions in this edition attest the earnestness with which this further contribution is made. We miss the alphabetical arrangement adopted in recent French and American works on skin diseases. While clinging to his former general classification, the author has expanded the definitions of his divisions and makes pathology the groundwork of his arrangement of skin diseases. The painstaking care of the author is evident in the clearness of statement, accuracy of definitions and strength in differentiation. It would be difficult to find more clearly cut diagnosis, and the pen pictures almost dispense with plates. The work, however, is well illustrated. There are many welcome plates of anatomical and pathological sections. In the sections on treatment, Dr. Crocker has consulted the most recent contributions and has himself developed much that is new. The references are well arranged.

Especially to be mentioned are the articles on Eczema,

Mowan's Disease (which is considered identical with Syringomyelia), Recurring Summer Eruptions, Hydroa Vaccini forme, Davie's Disease, Actinomy Cosis, Psorosperms, Acanthosis Nigricans, and Seborrhœic Dermatitis (Eczema Seborrhoicum of Unna). Most of these are new in this edition. The excellent formulary in the back of the book has many new and useful additions.

The sections on Pathology are most recent, well prepared and valuable.

Altogether, too much can not be said in praise of a work as a fair exponent of what is new in Dermatology. It can be commended as a useful text-book, and as a work of reference it must rank with the best

I. D.

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*Jackson's Ready Reference Handbook; Diseases of the Skin.*

Geo. T. Jackson, M. D. Lea Bros. & Co., Philadelphia.

This work of Dr. Jackson's is well named. It is arranged in alphabetical order, and the synonyms in other languages are given. The pronunciation of the terms in dermatology is an acceptable feature. Himself a teacher, the author has arranged his work in a desirable shape for class-room work. The pathology is meagre, but the plates are good. The formulæ given in the book are well selected and arranged. The whole effect of the work shows the pen of a practical teacher, and throughout the work is modern. In his "Therapeutic Notes" Dr. Jackson gives an excellent review of the most recent additions to remedies used in dermatology.

The book is an acceptable addition to the recent contributions on the subject. There are evidences of a hurried preparation for the press, however, and an undesirable condensation of material, which a second edition will probably correct.

I. D.

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*The Anatomy of the Peritoneum.* By Franklin Dexter, M.

D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, New York. New York: D. Appleton & Co., 1893.

One of the stumbling blocks of the medical student is the anatomy of the peritoneum. He can not understand the mode of formation of the greater and lesser cavities of that serous membrane, and how the large surfaces spread out from the narrow foramen of Winslow. Dr. Dexter has evidently experienced the same difficulty as other teachers of anatomy, and he has set about overcoming the same by presenting the

anatomy of the peritoneum in a manner that removes all difficulties. He traced out the development of the abdominal viscera and their relations to the peritoneum from the earliest recognizable stage. His subject is illustrated by thirty-eight engravings; these would, in an enlarged form, make a valuable addition to any dissecting room as wall figures; they would save the demonstrator a good deal of talking, and would present to the mind of a student a much clearer idea of the peritoneum than he could obtain from a verbal description. Dr. Dexter has really supplied a "long-felt want," and has earned a kind feeling from teachers of anatomy.

A. McS.

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## State News and Medical Items.

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Dr. Jno. Gazzo, of Lafourche parish, was in New Orleans last month.

Dr. V. L. Gilmore has moved from this city to Plaquemines parish.

Dr. J. S. Birdsong has moved from Starkville to Hazlehurst, Miss.

Dr. B. D. Cooper, of Mansfield, La., has retired from the practice of medicine.

Dr. J. J. Ayo, class of 1893 of Tulane University, has located at Lake Charles, La.

Dr. E. M. Burt, of Jennings, La., was registered at Chicago as a visitor last month.

Dr. W. H. Woods, of Woodville, Miss., has gone to Europe to spend two years in study.

Dr. N. J. Buck, of Mississippi, has been appointed to a position in the hospital at Natchez.

Dr. W. H. Watkins, of New Orleans, has left the city with his family for an extended trip North.

Dr. L. M. Provosty has moved into the town of New Roads, La., near which he had been practising.

Dr. I. J. Newton, of Monroe, La., has been in the city six weeks taking a special course in operative gynecology.



Dr. John B. Hamilton, of the Marine Hospital, has been elected editor of the *Journal of the American Medical Association*.

Drs. C. R. Oglesby and W. F. Fordham, of Florida, were delegates to the American Medical Association at Milwaukee.

Dr. C. F. Harrell, formerly of Louisiana, is now an assistant to the chair of ophthalmology at Gross Medical College, Denver, Col.

Dr. C. H. Tebault, who accompanied the remains of Jefferson Davis to Richmond, Va., has returned after an extended trip to New York and other places.

The next session of the French Surgical Congress will be held in Paris in October, 1894. The questions to be discussed will be the Etiology and Pathogenesis of Cancer, and the Surgery of the Spinal Column.

Dr. Ernest Laplace, a native of New Orleans, dean of the Medical Chirurgical College, Philadelphia, has been chosen to deliver an address on general surgery at the meeting of the association next year in San Francisco.

The following is said to be the oldest prescription in the world, and was given for a "hair wash" for "promoting the growth of the hair," for the mother of King Chata, second king of the first dynasty, who reigned about 4000 B. C. It is as follows:

Pad of a dog's foot.....	1 part.
Fruit of date palm.....	1 part.
Ass's hoof .....	1 part.

Boil together in oil in saucepan.

Directions for use: Rub thoroughly in.

## MORTUARY REPORT OF NEW ORLEANS.

FOR JUNE, 1893.

CAUSE.	White .....	Colored .....	Male .....	Female .....	Adults .....	Children .....	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	4	5	5	4	3	6	9
“ Intermittent .....							
“ Remittent .....	2	2	2	2	3	1	4
“ Congestive .....	6	2	4	4	6	2	8
“ Typho .....	4	2	2	4	3	3	6
“ Typhoid or Enteric .....	3	3	2	4	3	3	6
“ Puerperal .....		1		1	1		1
Leprosy .....	1			1	1		1
Scarlatina .....	1		1			1	1
Measles .....		1	1			1	1
Diphtheria .....	3		1	2		3	3
Whooping Cough .....	2	1	1	2		3	3
Meningitis .....	12	7	10	9	2	17	19
Pneumonia .....	2	9	7	4	7	4	11
Bronchitis .....	4	3	5	2	2	5	7
Consumption .....	36	30	35	31	63	3	66
Cancer .....	12	5	5	12	17		17
Congestion of Brain .....	12	3	7	8	9	6	15
Bright's Disease (Nephritis) ....	14	11	17	8	23	2	25
Diarrhœa (Enteritis) .....	32	18	20	30	13	37	50
Cholera Infantum .....	14	10	15	9		24	24
Dysentery .....	4	5	7	2	9		9
Debility, General .....		1	1		1		1
“ Senile .....	10	7	7	10	17		17
“ Infantile .....	4	3	3	4		7	7
All other causes .....	159	123	154	128	174	108	282
TOTAL .....	341	252	312	281	357	236	593

Still-born Children—White, 21; colored, 22; total, 43.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 22.17; colored, 43.51; total, 28.01.

F. W. PARHAM, M. D.,  
*Chief Sanitary Inspector*





DOUBLE AMPUTATION OF LOWER LIMBS.



# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### I. DOUBLE AMPUTATION OF LOWER EXTREMITIES. II. INTERMITTENT MALARIAL HÆMATURIA.

By A. R. TRAHAN, M. D., LAFAYETTE, LA.

#### I.

F. H., white, æt. 10 years, attempted to board a moving train at 5 P. M., Sunday, June 11. In doing so he fell and the train passed over his lower extremities. The right leg was reduced to a shapeless mass up to the middle of the thigh, at which point it was held only by a piece of skin on the posterior aspect. The left foot was badly crushed nearly up to its middle. The physician in charge, Dr. Mudd, summoned my father and myself to assist him. We found the patient shocked, but not at all in proportion to the severity of the injury and the amount of blood lost.

Having decided to operate at once, the necessary preparations were begun and completed within one hour. Meanwhile the patient was stimulated with brandy, and digitalis and strychnia administered hypodermatically. My father gave the anæsthetic, Dr. Mudd looked after the instruments, and, at the request of both, I operated. Even at the upper third a flap entirely sound could not be obtained, but I did not venture higher for fear the shock would be too great for the little patient. It is

useless to enter into the details of the operation. They shall be sufficiently well understood by stating that the circular method was selected, and the amputation performed accordingly.

Everything went on satisfactorily until a few minutes before its termination, when the patient began suddenly to show signs of collapse. A stimulating enema was immediately given, and in a short while the desired effects were obtained, after which the operation was completed. It was then 7:30 P. M.

Deeming it safer not to touch the foot that evening, it was cleaned as well as possible and a simple dressing applied. The patient was now placed in bed. He had recovered from the chloroform and had a fairly good pulse. Opium and bromide of potassium were given to quiet pain and secure rest. This had very little effect, however.

The next morning, June 12, patient was found with a temperature of 104, very delirious, and with a pulse very rapid and compressible. His urine had to be drawn with the catheter. Cold sponging was employed to reduce the fever and morphine to quiet restlessness.

The dressings were removed and the wounds irrigated thoroughly with a weak solution of corrosive sublimate—about 1 to 5000. Right here it may be as well to mention a singular feature of this case. The use of bichloride of mercury and carbolic acid soon had to be abandoned, because of the violent gastro-intestinal irritation—vomiting and diarrhœa—which they invariably produced. Permanganate of potassium was substituted, and was unattended by the evil effects of mercury and carbolic acid.

June 13. General condition of patient better; he had rested well, and the fever was two degrees lower. Advantage was taken of this improvement to operate on the foot, as by further delay the additional risk of septicæmia was incurred. Chopart's amputation, somewhat modified, was performed. The plantar flap being a trifle too short to meet the upper one, the anterior half inch of the astragalus and calcaneum was removed with a saw. The tendo Achilles was also divided, subcutaneously, to prevent the muscles of the calf from exercising undue tension on the lower flap. The reason for this is

obvious. From the 13th to the 20th the temperature ranged between  $99\frac{1}{2}$  and 101, and the pulse averaged 126. From June 20 both the temperature and pulse began to decline gradually, and after July 4 patient had no more fever.

As was expected, the flap of the thigh-stump sloughed. All the dead tissues were cut away with scissors, and the edges touched with pure carbolic acid. The bone protruded on account of this sloughing, and also spasmodic contraction of the muscles, which was another troublesome feature of this case. This necessitated a third operation—resection of the end of the femur—which was done July 1, an inch and a half of the bone being removed. The wound was treated subsequently as an open one.

During the entire treatment this patient was nourished regularly day and night, and as soon as the state of his digestive organs permitted it, he was put upon drachm doses of cod liver oil and an equal quantity of Wyeth's Glycerol Chloride of Iron, three times a day, the latter preparation acting remarkably well. It produced no constipation, and its action in restoring red blood corpuscles was soon manifest. Quinine was also given, as the case was complicated by malarial poisoning. Both stumps were dressed daily for a month, then at gradually increasing intervals until the first days of August, after which they no longer required attention. The results obtained in this case are shown in the accompanying photograph.

## II.

In the following case of malarial hæmaturia, quinine formed the basis of treatment. So much has been said, pro and con., about the use of this drug in hæmaturia that it seems desirable to give it further trial, and, by noting results carefully, collect sufficient data to settle the question beyond reasonable doubt.

Mrs. G., æt. 45, white, summoned medical aid at 6 P. M., August 8, and gave the following history: A chill August 4, followed by a rise of temperature of several hours' duration, after which the fever subsided, having a feeling of lassitude, general malaise, loss of appetite, etc. On the 7th she had another chill, but this time the fever did not subside as before, and when seen the next day her temperature was 103

deg., pulse 115, headache, tongue dry and covered with a yellowish fur, had vomited several times during the day and still felt nauseated; bowels very close, micturition frequent, urine scanty and presenting the appearance of blood in large quantity.

When examined, quite a large percentage of albumen was found, and the microscope revealed the presence of numerous blood corpuscles. In addition, patient complained of a severe pain in the lower portion of the abdomen, just over the bladder. This pain, however, was very probably of a purely neuralgic character, as it does not belong to the natural history of the disease.

*Treatment*—To relieve pain and gastric irritability, morphine was given hypodermatically, and in order to unload the bowels, a warm soap-sud enema, which had the effect desired. As soon as the stomach was quieted 5 grains of quinine, in solution, were given every two hours until 30 grains were taken. The following day, August 9, patient was again visited at 8 A. M. Had spent a good night. Temperature  $98\frac{1}{2}$ , urine much increased in quantity, and color decidedly better, almost normal. Bowels were again moved, and quinine ordered every three hours until 30 more grains were taken. That evening temperature was still normal, and urine had cleared up completely, and no longer showed the presence of red corpuscles. A few days later a tonic pill was prescribed consisting of iron, quinine, nux vomica. At the time of this writing, August 19, patient is well.

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## Selected Article.

PROFESSOR J. M. CHARCOT.

By GILLES DE LA TOURETTE, Médecin des Hôpitaux.

[From *Revue Hebdomadaire*, No. 66, Paris.]

The *Revue Hebdomadaire* has requested me to revive for a moment and for the benefit of its readers the grand figure of my venerated master, the Professor Jean-Martin Charcot, whom a sudden attack of angina pectoris has carried off and away from the affection of his pupils and the admiration of the whole



scientific world. I promised at once, happy almost to be allowed thus to repay at least part of my debt of gratitude, but was also startled—after due reflection—at the thought of the task before me. I fear, indeed, to be partial, or at least to be thought so; for the man whose portrait I would like to delineate is not the one whom the crowds knew.

A legend has formed itself around the physician of the Salpêtrière, while alive, which nothing can ever destroy, and it was the adaptation by the public to understand him, of an ensemble of facts the reality of which that public shall never try to verify.

In that legend Charcot appears as one of those *thaumaturges*, whose hieratic gesture alone suffices to chase away the evil spirit, to fulfil miracles. God forbid that I should make him descend from that pedestal upon which the piety of the despairing ones had lifted him, whose lives he had saved. I desire only to uncover a corner of the veil in order to show that the *faith in him* was well placed, and also how a man's genius and science can give him immortality while still alive.

J. M. Charcot was born in Paris, November 29, 1825. His father, a modest carriage maker, was more artist than mechanic; the best of his income was often spent in researches and upon execution of chariots, sumptuously adorned—models of which, drawn by himself, still command the admiration of men of his own profession. Thus he inherited from his father at least a real passion for the arts, especially drawing, of which he was master; and the mansion wherein he dwelt since fortune smiled upon him had been at least partially decorated after his own plans; such were his amusements, and that dwelling is justly regarded as the gem of Parisian dwellings.

A diligent medical student—made interne in 1848—at the same promotion as Vulpian, his friend among all, he attracted the attention of Rayer, who took him as his chief of clinic. Rayer occupied at that time the preponderating position which his pupil was to occupy 20 years later; he recognized in Charcot a choice mind, and favored him with all his power. But then there was never a pupil more respectful and more grateful—and even recently he spoke to me with genuine enthusiasm of the master, whom he certainly has surpassed.

Rayer, who knew that Charcot was poor, gave him in charge a rich family, whom the latter attended until his death with the everyday devotion of the ordinary physician, for that man with the hard-featured mask had above all a big heart. Thus he was enabled to stay long time in Italy, where he acquired an artistic education, equaled only by his medical one.

Afterward he submitted to examinations, wherein he certainly would have failed but for the protection of his teacher. At that epoch medical science was not yet what it is to-day; a science to the making of which he has so powerfully contributed. Favors went to rhetoricians, to those who were stuffed full of commonplaces by means of a special training that had nothing in common with science itself—could abundantly talk upon any subject propounded to them. Nothing was further from Charcot's temperament than these oratoric tournaments, when sonorous words took the place of arguments with scientific character. He would have failed but for Rayer, and yet for once at least he made fate decide in his favor. That man with a dominator's mask, who in reality was timid, had been beaten upon what I will irreverently call in medicine the territory of French discourse. But when he came to the argumentation upon his opponent's thesis he caught up again, strong as he was in knowledge that, to strive, needed no borrowed rhetorical formulas. Thoroughly familiar with foreign tongues—they were three of that kind in the faculty at that time, Leudet of Rouen, Vulpian and Charcot—he triumphed while displaying a *luxus* of bibliographic knowledge at which his judges were not the last to be amazed.

It is a fact that there has never lived a harder worker. His constant occupation—outside of the examination of patients, wherein he excelled—was the reading of French and foreign publications. He annotated them, made extracts from them which he collected to his very last days, pasting them with his own hands into special books, just like a beginning student. His memory became so trained through that labor of a Benedictine monk that he could, twenty years after the publication of some such work which often had passed perceived by nobody, give exact indications about it. How much did he facilitate, through that very power of his, the researches of his pupils! Moreover, it was he who revealed, as it were, to England the value of Todd; who brought into full light the labors of Brodie. This opinion I hold from an English physician, great among the illustrious ones, and who, like all his countrymen, professed for my dear master the most vivid admiration.

It must be told, however, that besides the delights of his family, which he enjoyed to a superlative degree, and besides the always wide-awake interest he felt in his pupils, Charcot was devoted only to science, to the arts and to philosophy, which he loved. Those who have lived in the intimacy of a daily intercourse with him can tell if they have seen him ever take part in an irrelevant, void conversation.

Passionately devoted to traveling, he made always his

travels contribute to his instruction. He brought home generally numerous documents, having visited hospitals, churches, museums—where his sagacious mind, his penetrating eye, which naught could escape, would discover some exvoto or some painting such as those that permitted him to write his “*Démoniaques*” and his “*Difformes dans l’art*,”—which are only evocations of the nervous pathologies of the past. And for that very reason could his intercourse be truly pleasant only to a certain number of choice minds whom he admitted to his Tuesday evening receptions, and with whom he could converse about the most elevated topics. I have seen in his parlors of the *Quais Malaquais*, or the *Boulevard St. Germain*, most heterogenous personalities—Gambetta, Alphonse Daudet, Mistral (the provençal modern trouvère); Paul Arène, Ribot, the Emperor of Brazil; Taièl, the heir to the Bey of Tunis; the Cardinal Lavigerie; Waldeck-Rousseau, his son-in-law, to whom he particularly was attached; and how many others besides whom he held under the charm of his philosophy. \* \* \*

His auditors surrounded him while he argued with ardor—sometimes flaming up—for he would rebel at contradictions; his cold and severe face surrounded by long hair, thin on the temples—which gave him a striking resemblance to the first consul—that face would unthaw as it were; his eyes, hidden beneath bushy eyebrows and laid deep in their orbits, shone with a particular light, while he rose, arguing all the time, from his high chair (and he liked but such), and made a few paces—he, the man of physical immobility—to return then to his place, cleaving the air by a cutting gesture, quasi-sacerdotal, which was familiar to him; we, his pupils—we admired in the meanwhile without reserve his deep knowledge of men and things, that made of him an opponent never to be vanquished.

But I perceive that I allow myself to be carried away by my memories; the souvenirs, alas! of yesterday—that crowd one another in my mind! And yet I would like to bring some kind of order into the exposé of a life so completely filled as was his.

Nominated *agregé* of the faculty, and physician of hospitals, he took in 1862—never to leave it henceforth, the service in that city of 5000 souls, called the *Salpêtrière*—that pandemonium of human infirmities. Before him that place was not coveted at all. Young physicians of hospitals, of whom, he was one of that epoch, sojourned there only rarely; for them it was more a place of passage than a scientific station.

But Charcot understood at once what an inexhaustible mine he had there at his disposal—and without delay he resolved to

make it pay. It was then that his high science in all the medical branches affirmed itself.

The Charcot of the public was but a specialist; true, genial in the domain of nervous affections, while among his colleagues he was famous already when he directed his studies that way. In his infirmary service he gathers all the rheumatizing patients populating the dormitories of the great hospital, and he, who as prelude to a career which he was to make illustrious, gave a thesis on the gout; he establishes the lines of demarcation separating chronic rheumatism from gouty affection. His book on the maladies of seniles is a brilliant reflection of his knowledge at that date.

As reward for his labors he is given the chair of pathological anatomy, thus being put into the place of his friend Vulpian, for whom a chair of experimental pathology was created. Charcot publishes then his researches in the diseases of the liver, the veins and the lungs, which, translated in all tongues, have become classic. It is there that his doctrine affirms itself. Charcot has a method of working and one of exposing—both of his own—the anatomo-clinical method and the method of types.

He observes—and only his pupils can tell how carefully—a patient, a series of patients; he collects their clinical history with a precision quite incomparable, accumulates materials—controls patiently facts by the light of anatomical documents, and then and only then does he make his conclusions, without ever allowing himself to be stopped on his road by theories of a preconceived physiology. For his exposé in a group of facts he takes no exceptions—the *formes frustes*, as he calls them, will come later; he creates types and describes as he conceives them, with anatomical pieces for proof. Some twenty years since when his researches on the diseases of the lungs, liver and veins were published, does not the pulmonary lobule of Charcot stand? Does not his conception of cirrheses and nephrites still govern pathology? As to his ideas, he defended them to the bitter last.

Does it mean that he denied progress, that man who was progress personified? Not at all! He was conscious—it was perhaps pride, but then how legitimate—he was conscious of the fact that whatever he affirmed he did so for good reasons, after deep-reaching clinical and laboratory studies. Who ever proved to him that he was mistaken? Nothing in human pathology was strange to him; he has made discoveries in all its branches, and the “*crystals of Charcot*” still remain a characteristic of certain alterations of the liquor sanguinis.

This it is that those have to be reminded of—if not



taught—who knew but one Charcot, and he represented by my friend, Bouillet, curing a hysterical patient in a fashion as would the St. Nil, of the Dominican, drive out the devil from one possessed.

I come now to his studies of nervous diseases, in which he shone with a light never equaled. At the same time when from 1872 to 1882 he taught at the school of medicine his cursus of pathological anatomy, Charcot was creating in his Salpêtrière the study of diseases of the nervous system. Everything had to be done in the old hospital; one room is transformed into a laboratory, for microscopic investigations; in another he installs his instruments for experimental physiology, while at the same time he creates a museum where photographic drawings will be placed—the mouldings, drawings and the anatomical pieces which he is collecting. Every day, then, he searches the old dormitories, where under the general appellation of *paralytiques* are relegated all the invalids suffering from diseases of the brain or of the spinal cord.

It is the epoch when Duchenne, of Boulogne—his rival in genius—is describing the locomotor ataxia, muscular atrophy under all its forms. Charcot marches on with him upon the road so fecund—and, in his turn, from that confused group of non-differentiated diseases of the cord, he extracts the “*sclerose en plaques*,” “*lateral amyotrophic sclerosis*,” or “*Charcot’s malady*”—the “*arthropathies of the ataxic*,” or “*Charcot’s joints’ disease*”—and lastly, by means of his anatomical-clinical method, he makes as it were his own the doctrine of cerebral localizations that was sufficient to render famous Ferrier and Broca.

From 1862-1876 his lessons in the Salpêtrière on the organic diseases of the brain, and the cord throw an incomparable lustre upon French medicine. It is then that he publishes a series of his labors in hysteria and in hypnotism, which is but a corollary of the neuroses. In 1862, when entering upon his service, Charcot finds between the pavilion for incurables and that for epileptics a section so-called of hystero-epileptics, where the convulsionnaires were indiscriminately mixed up in common quarters, on the door of which Dante might have written “*Lasciate ogni speranza, voi ch’intrate*.” This was the hell of the Salpêtrière.

I know its history, since five years ago I undertook to expose in a treatise on Hysteria the ideas of my master, and the researches which from 1884 on I have been making in that direction. At first he saw no more than his predecessors did in those paroxysms of forms so changing—in the convulsions of that *Proteus*, as Hysteria was then called. But he observed,

noting daily the attributes, drawing the phases of the attack, and one day there was light! The veil was torn asunder; he had discovered the complete independence of the two neuroses—hysteria and epilepsy—and as ever, he supported his demonstration not only by objective phenomena susceptible generally of variable interpretation depending upon the observer—but by an ensemble of physical stigmata proceeding from disturbances of sensibility and the progress of temperature—which were above all dispute. But even here he proceeded by the method of types, and his description of the great hysteric attack, the so-called “*attack of the Salpêtrière*”—is again the one that should serve as basis of all description in that matter. From a remnant of deference for a nomenclature used in the halls of the old hospital, he left it the name, “hystero-epileptic”—but later on he changed his mind; he said “this term must not be used again; it might call forth confusion—hysteria and epilepsy being not related to each other at all.”

That discovery of the unity—the indivisibility of hysteria in its forms until then considered epileptic, was pregnant with consequences from the doctrinal standpoint as well as from the therapeutic one. Besides the fecund revolution it called forth category of patients considered heretofore incurable, and in nosography, it permitted also to hope for a cure of a whole treated as such. Charcot's efforts were directed from that moment on to find a rational treatment of the great neurosis.

How often while I was his interne or his chief of clinic—how often did I hear it said in the course of a discussion about the labors of my master—

“The hysteria in the Salpêtrière? Why you cultivate but do not cure it!” If this came to the master's ears he would answer: “To learn to cure one must first learn to know; the diagnosis is the best trump of the treatment.” It is at him that the reproach had been leveled of not being a therapist, at Charcot, who gave the true formula of treatment of hysteria and epilepsy, who found the only way of curing the aural vertigos, which, before him, were left untouched; at him who in therapeutics never had retreated from any experimentations, whose maxim in the matter was “The good remedy is the one that cures!” Let then be read on that subject one of his last labors, a kind of a philosophic testament—the “*Faith that cures*”—published in the *Révue Hebdomadaire* of December 3, 1892 (No. 28).

That strictly scientific mind was in therapeutics as well as in pathology, extremely indulgent; he took what was good wherever he found it, always curious of new things.

He proved it when in about 1874 his studies on hysteria led him to undertake his researches on hypnotism. It was a matter of general amazement in the world of science when Charcot, with his so thoroughly scientific mind, began to commit himself with magnetized subjects, as it was called at that time, and to demonstrate that they *really were asleep*, and that certain honest magnetizers, and of good faith, though such were rare, had had a glimpse of part of the truth. Charcot, besides, did not go slowly to work in that matter, but laid his communication, fruit of his experiments, at once and directly before the Academy of Sciences.

And again was his method therein plainly visible—a constellation of hypnotic phenomena through an *ensemble* of physical signs impossible to simulate; no hollow wanderings in the domain of suggestion, facts easily to be immediately controlled (verified) by anybody. Hypnotism is a morbid state, which, like the hysteria from which it is derived, has its determinism and its laws; it is a malady called forth by the experimenter, and therein lies the reason why it should not be provoked without necessity, as it can originate fearful nervous accidents.

While establishing the physical laws of somnambulism Charcot lighted up another dark corner of that marvellous region which has been reduced to nothing by his labors on hysteria in the history of the demoniac.

The struggle was sharp; there were such who refused to see aught in Charcot but a “hypnotizer,” and his discoveries in all the branches of his art were willingly forgotten by such, who met none of his difficulties in making theirs. Others put on benevolent airs, and pretended to apologize for what they were pleased to call his errors. But he—for all answer—he only multiplied his lessons, his communications; invited his detractors to be present at his experimentations, and carried the question before the general public, by opening wide the doors of his amphitheatre; and once more he came out victorious.

Alas! he did not tell it *ex cathedra*, but I know positively that he regretted his victory, for after this the study of the phenomena of hypnosis, formerly so entirely disdained, assumed considerable extension, entirely too large according to his opinion. Such a one who but yesterday was in the capital, or in the provinces, an obscure, unknown physician, suddenly stood revealed to the public as an admirable healer—a hypnotizer of the first order; which certainly could not be difficult, as the patients slept—by themselves.

But the scientific road upon which Charcot had engaged himself—the road of physical determinations of hypnotism, that

road became entirely forsaken, and the world was then permitted to look upon all the by-paths of suggestion without control being entered upon. The walls of the Salpêtrière became filled with wretched victims of fashionable hypnotizers, and science having nothing more to say and to do in these experimentations dominated by lucre or morbid curiosity, magic bloomed up again, occultism saw again the light of day, together with all the weeds that are so carefully cultivated by exploiting charlatans.

Hypnotism invaded the pretorium; judges tried cases, tribunals condemned upon solicited advice of stage magnetizers.

Charcot was deeply affected by the thought that it was he who had opened the gate for this flood, which he could no more dam off, and which, rising higher each day, became soon permeated with impurities. On the morrow of a famous process where the curious spectacle was presented to the world of a professor of administrative law enthronized as expert in matters hypnotic, Mr. Charcot spoke, with painful emotion, these words to me: "There we have it for ten years at least! Minds exerted, appetites unchained, and nothing that could be done scientifically in the realm of hypnotism will be taken at its real value, and besides I am too much in the way of the world when I say that hypnotism is dangerous and that not all subjects can be hypnotized."

I would tell much more about it, and shall certainly return to it some day.

It was in 1882 that Charcot's teaching of the past twenty years in the Salpêtrière was officially consecrated. He left the chair of pathological anatomy to take possession of that of diseases of the nervous system, which had been created for him. But no changes were made in the ancient hospital, for he had attended to everything; gradually the laboratory had become enlarged and new ones had been inaugurated by him. The amphitheatre where he lectured proving too small, the old time kitchen of the hospital, where 500 auditors could be located, was transformed and provided with apparatus for electric projection. A service of electrotherapy—without its equal in the world—had been installed, and besides, particular laboratories for an aurist, an oculist, a laryngologist—who, one and all, gave to the master the support of their special knowledge. I shall not describe that *Institution*, to use a consecrated word; it is well known by all, and has served in Europe as model for many a creation of the same order without any other equaling it ever.

Charcot remained in the Salpêtrière for over 30 years,



until death came to interrupt his lessons, which he continued to the very last day of the scholastic year, and with always the same *eclat*, the same punctuality. He succumbed while standing upright, with lifted brow and in the fullness of his talent.

Every morning—and with vacations he allowed himself no more than one month of leave per year—every morning, exactly at half past nine, he proceeded to his service, where the hour of noon found him mostly still, for he always gave the precedence to his hospital patients, coming from all the lands of earth, before those of his clientele. These, withal, worshiped him; not only did he attend to them, but also he was toward them of a bland benevolence, which, however, led some unscrupulous ones to impose upon him. I do not believe, however, that he became their dupe—yet his hand, that he so seldom offered, was for charity's sake always wide open.

Punctual himself, he demanded from his chiefs of service the same punctuality and promptness; everything had to be ready for his courses. On Tuesday morning on the day of the great lesson (he gave on Friday another one, of extemporaneous clinic), he saw for the last time the patients on whom he was to lecture, and if any of these were absent he had attacks of temper extraordinary, especially toward January 1. The young internes who just had entered the service kept this well in mind and the next time there was nobody absent at the muster. He never gave a lesson without it being prepared long before and with a superfluity of documents. On leaving the amphitheatre, if he desired it to be published, he would say to one of his pupils: "Here are my notes; I want you to edit them." The editing was not hard, for there were no changes to be made. The lesson was written out all in his own hand, in that firm and vigorous style of his, without any useless sentences—a style, the precision and lucidity of which will have forever our admiration.

Nobody ever owned in a higher degree the gift of instruction. Having at times to treat of subjects wherein he entered upon the most elevated region of medicine and philosophy—as for instance, aphasia and the divers elements of language—he would for two hours hold his audience spellbound under the sway of his words. It was this that one had to see to know him and to appreciate him justly at his value. At such time he would become another man—be transfigured as it were; he warmed up while arguing with fire upon contradictory opinions—he rose to the highest summits of eloquence, carrying off the applause of an audience permeated by his passion for science.

Hearing him thus express himself without repetition, with-

out amplification, in a speech always well in hand, the question would arise: was that the Charcot of the examinations of yore, so rebellious to eloquence. I, for my part, think he must have been always what he was when I knew him; but also do I believe that he never could talk about nothing.

For his teaching Charcot used all the discoveries of modern science; he was one of the first to use electric projections—it being impossible for him to show to three hundred auditors at the same time the microscopic piece serving to support his clinic demonstration. Thus also, describing the great hysteric attacks, the phenomena of the hypnose, while standing upon an estrade dominating the crowd, he would make these demonstrations of his so full of motions, which so often have been reproduced by engraving.

Thus it came that some antiquated, envious teachers, whose lecture rooms were empty, dared, to their own lasting shame, to pronounce the word "*charlatanism*;" I incline to believe that it was not the brilliancy of the electric light alone that blinded them in these marvelous instructions.

On Wednesday, August 9, he had admitted me to his table in that little house at *Neuilly*, which he so liked. I had brought for him to read and to correct one of the last chapters of the treatise on hysteria which had been written under his direction—for none of his pupils ever published a work of any kind of importance without him reading it and correcting it with his own hand—and how so full of instructions were these two annotations!

He was full of good humor—going as he was to start on the morrow upon an archæological excursion with two of his pupils—Professors Debove and Strauss, and besides Mr. Vallery-Radot, son-in-law of his colleague of the institute, Mr. Pasteur, his faithful friend of certain ugly days. After they were gone his letters came full of joy and interest; the last, of August 15, was even gayer than the rest; he advised us therein of his return.

On the morning of August 16 he was dead.

With him disappears the greatest medical figure of the last half of the XIXth century, which will become still greater in the future, when those whom he had wounded by his ferocious frankness shall have rendered him the justice due to him.

Charcot has been a chief of a school in the highest and most vigorous acception of the word; upon his pupils he imposed a strict discipline; no favors, no competitions between them; each had his turn; mutual assistance—the oldest ones returning to the youngest what the master himself had done for them. He jealously desired them to keep untouched his scien-

tific traditions; knowing men, he distributed tasks and knew to inspire them to labors of which he left all credit, all honors to them. And withal—all thought but of obeying that master among masters.

Two years ago one of them whom his powerful hand had guided to the conquest of highest honors brusquely separated himself from the master. This affected Charcot very painfully, the more so that he did not show it. He found solace perhaps in seeing how faithful his other pupils remained to him, closing their ranks around the master to heal the wound he had received.

Charcot's private life was as admirable as his scientific one. Married to a superior woman, gifted with quite an elevated artistic sense; father of a son, his actual interne, whom he saw marching onward upon the road so dear to himself, and of a daughter who was the joy of his days and the companion of nearly all his travels, he lived like some patriarch, surrounded by the warm affection of those that were his nearest, and by the admiration of his pupils. Those who have been admitted into that interior will not think of what science has lost when contemplating the ruin of the happiness of a family upon whom the cruel hand of death has so suddenly and so heavily descended.

A. Z.

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## Editorial Articles.

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### BACILLI IN DUST.

To the laity, dust is a nuisance, a thing to be got rid of on account of its inconvenience; to the physician and sanitarian, dust is a thing to be treated seriously, since it is the most potent carrier of the contagion of the disease that annually numbers its victims by the millions—consumption. It is not such a very long time since dust began to receive attention at the hands of bacteriologists; the labors of these men are rapidly bringing the profession to a realization of the importance of dust as a carrier of disease. When the bulk of the profession appreciates the matter fully the laity will be gradually taught the dangers that lurk in street-dust, and take measures to lessen them.

A few years ago, a praiseworthy “missionary” effort was made by Dr. T. Mitchell Prudden among the laity, in the publication of a little work in popular style that set forth in plain language the way in which dust served as a spreader of disease. This effort, which stands alone, we believe, was a movement that should have been followed up by Boards of Health and physicians all over the land.



The most recent contribution to medical literature on this subject is an article by Marpmann, of Leipzig, in the *Centralblatt für Bakteriologie und Paristenkunde*. He investigated street-dust with a view to ascertaining if it contained tubercle-bacilli. Prior to his studies, no positive investigation of this sort had been fully carried out, which may have been due partly to the scantiness of the bacilli in the dust, and partly to the fact that the organisms do not exist as bacilli but as products of disintegration. The breaking up of living bacilli has been known for a long time, but it is only since the introduction of tuberculin that a general interest has attached to it. Certain chemicals are capable of producing this disintegration; and the same change takes place in sputum that has undergone decomposition.

Marpmann found the disintegration in sputum to take place as follows: The intact bacilli in several days become more or less beaded; four or five days later the protoplasmic masses have divided into two or three small balls; in two or three days more these balls are sometimes seen with attached threads of bacilli; then the cell-membranes disappear, and there remain only the round or oval nuclei. In three or four weeks no bacilli can be found; only the remnants or nuclei are seen. The same changes take place in bacilli in water, on the ground, and in all moist media. The addition of corrosive sublimate at any stage of the retrograde process will prevent further change, and thus the bacilli can be fixed at any stage of their disintegration and studied afterward. He has preserved a specimen of sputum since 1884 in sublimate solution, in which the unaltered bacilli can still be seen.

In the investigation of street-dust, earth, sewage and house-dust, regard must be had to the disintegration of the bacilli, since it is very unusual to find intact bacilli in these media, whereas, on the other hand, the demonstration of the disintegration nuclei does not present any special difficulty to a man who is properly equipped with optical apparatus. In his investigations, Marpmann proceeded as follows: the dust was digested with water at 40 deg. Cent. for a few hours, then strained through flannel, and the fluid mixed with a drop of chloride of iron and about twenty drops of solution of carbon-

ate of ammonium. A precipitate slowly falls, which is afterward strained and examined.

Thirty-four examinations were made each of the dust on the banquette, on the curbing and in the open street. In these 102 examinations he failed in only 13 to find evidences of the spores of the tubercle-bacilli. The presence of these organisms, however, does not necessarily imply that they are active. In order then to ascertain if these bacillary remains possess any infective power, Marpmann made some culture experiments. Some were unsuccessful, but those in which the tubes were filled with oxygen, a film uniformly developed, which the microscope showed to consist of unmistakable tubercle-bacilli.

The results of Marpmann's experiment confirm the opinion already advanced, that pulmonary tuberculosis may arise from the inhalation of infected dust.

Marpmann also puts forth a hypothesis which has already been advanced by Dr. H. W. Blanc, formerly chief sanitary inspector of this city. He says that it may be assumed that the bacilli find at different points of the earth favorable spots where they can rapidly multiply, in company with other micro-organisms. The ubiquitousness of consumption would lend color to that presumption. The germs of the disease must be kept alive somewhere outside of the human organism, for a community or a family originally free from the disease sooner or later develop it, when overcrowding and bad hygiene begin. Here, in our city, there are all of the conditions favorable to the growth of bacilli—heat, moisture and organic matter. Consumption carries off more people in New Orleans than any other single disease. We rapidly develop a panic at the approach of yellow fever or cholera, yet both of these diseases combined do not begin to work the ravages that consumption does, year after year, and century after century. If consumption were a quick disease, startling us by the rapidity of its onset, we would stand aghast at the thought of five millions of victims annually—for that is the number of deaths from that disease all over the world; and we would not be slow in enforcing quarantine measures against consumption. Consumption comes with a slow, treacherous step, and it gains a firm foothold before its presence is even suspected.

The importance of the consumption question has several times been brought before the people by our medical teachers. Several years ago, there was set on foot a movement to pave and drain the city in a proper manner. Unfortunately, the project fell through, but it did some good, since it prepared the way for the present operations, in the way of providing a comprehensive system of drainage for New Orleans. During the course of the agitation of the paving and drainage ordinance, a number of addresses were delivered by men representing various callings, each one showing how his part of the population would be benefited by proper drainage. The medical address is the one that interests us chiefly. In the course of his remarks, Dr. S. E. Chaillé cited, as an instance of the benefits of drainage, the marked reduction in the death-rate of Manchester, England. The improvement was noticed chiefly in regard to consumption. The experience of that city, and also of others, in which careful statistics are kept, tends to prove that there is a direct relationship between the amount of soil-water and the mortality from consumption. This is not difficult to understand when we remember that a certain amount of moisture is necessary to the continued existence of micro-organisms. If that factor be removed, the propagation of the bacilli in their original dwelling place, the earth, becomes more difficult, and the danger of infecting the human organism is diminished. We applaud the efforts now being made to improve the drainage of this city; and we confidently look forward to a steady diminution of our death rate.

Many people will think that we are optimistic, and hope for things not looked for even in Utopia. There was a time in the history of surgery, and every old physician's memory can bring him back to it, when it was a wild, insane dream to think of stopping suppuration in surgical wounds; nowadays the surgeon who permits his wounds to suppurate is looked upon as a careless fellow, a man who does not carry out the rules of anti-sepsis, to the benefit of which even the poorest beggar is entitled. That shows what education can do. If we educate the people to the dangers that lurk in the abiding places of consumption, it will not be long before an irresistible demand will be made for the protection of the community against this ever present danger.

## SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

This association will hold its next meeting in New Orleans, on November 14, 15 and 16, 1893. The members of the local profession are cordially invited to attend. This association comprises the best special talent in the South, and its meetings always abound in valuable scientific material; and we look forward to a hearty appreciation of the visit on the part of New Orleans physicians.

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## ELECTION OF RESIDENT SURGEONS AT THE EYE, EAR, NOSE AND THROAT HOSPITAL.

On the first Wednesday in next December the executive committee of the Eye, Ear, Nose and Throat Hospital will elect four resident surgeons to serve from January 1, 1894, to January 1, 1895. Physicians desirous of availing themselves of the great facilities offered by this institution should send in their applications to Mr. Jos. A. Hincks, No. 29 North Rampart street.

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In the July issue of the JOURNAL, in the report of the Attakapas Medical Association, "Dr. G. W. Martin" should read Dr. G. A. Martin. Dr. G. A. Martin was expelled from the Association, and Dr. G. W. Martin does not desire to figure as the hero of the episode. We are sorry that a typographical error placed Dr. G. W. Martin in a false light.

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## Abstracts, Extracts and Annotations.

## SURGERY.

## A PRELIMINARY NOTE ON THE TREATMENT OF INOPERABLE SARCOMA BY THE TOXIC PRODUCTS OF ERYSIPELAS.

By WILLIAM B. COLEY, M. D., Instructor in Clinical Surgery, New York Post-Graduate Medical School; Surgeon to the New York Cancer Hospital; Assistant Surgeon to the Hospital for Ruptured and Crippled.

In a recent paper published in the *American Journal of Medical Sciences*, May, 1893, I have given the results in a series of cases of malignant tumors treated by repeated inocu-



lations of erysipelas. The paper also contains an abstract of all the cases that I had been able to find in literature, when an attack of erysipelas had occurred in patients suffering from sarcoma or carcinoma. The clinical and experimental data above referred to *conclusively* prove that the germ of erysipelas contains a powerful principle, which has a marked antagonistic effect upon malignant tumors, more especially sarcoma, and which, in a certain proportion of cases, is curative of the same.

The results of my experiments and investigations are in brief as follows:

Of forty-three cases of malignant disease associated with erysipelas, twenty were carcinoma, nineteen sarcoma, and four either sarcoma or carcinoma. In twenty-three cases the erysipelas was accidental, and in fifteen the result of inoculation.

Of the twenty cases of carcinoma, three were permanently cured. In addition one case of probable carcinoma (Hutchinson's) was well five years after the attack of erysipelas. One died from the inoculation. Most of the remaining cases showed more or less improvement, which, though temporary, undoubtedly added to the life of the patient.

*Sarcoma*—In the nineteen cases of sarcoma we find eight, or 42 per cent., well from one to seven years after the attack of erysipelas. Most of these cases have a remarkable history, the details of which may be found in the paper alluded to. Two died as a result of the erysipelas.

These cases have been in no way selected, and every effort has been made to include all cases resting upon competent authority.

When we reflect that in nearly every instance the tumor was not a primary growth amenable to operative treatment, but either a recurrence after operation had been tried and failed, or from its nature and situation inoperable, then we are able to appreciate the importance of erysipelas as a *curative* agent.

During the past two years I have treated twelve cases of inoperable malignant tumors with repeated inoculations of the living cultures of the streptococcus of erysipelas. Four of these cases were carcinoma and eight were sarcoma.

In but four of the twelve cases did I succeed in producing a true attack of erysipelas, although in nearly all cases the frequently repeated injections of *liquid cultures* had more or less effect in diminishing the size of the tumors. The four cases in which erysipelas was produced were all sarcoma. In two, the tumors entirely disappeared. One was very large, 7 x 5 inches, situated in back, with secondary tumor, size of goose egg, in groin, and the second was a recurrent sarcoma of the neck,

with a very large secondary tumor in the tonsil. In the first case both *primary* and *secondary* tumors disappeared, while in the latter the primary tumor disappeared and the tonsil tumor diminished in size, and although nearly two years have passed it has apparently not increased, a fact which seems to prove its malignant nature must have been changed.

Recurrence followed in a few months in the first case. The tumors grew rapidly, but *again disappeared* under a *second* attack of erysipelas. Still another recurrence followed. The focus in the back was removed with the knife, but before the wound healed the disease had reappeared both in the back and the groin. Injections of the *Toxic Products* of erysipelas were then resorted to, and repeated at intervals of forty-eight hours for three weeks. The sarcomatous nodules disappeared, and the patient has entirely regained his normal weight and general health. No recurrence has yet taken place, and it is now fourteen months since the first inoculation, and four months since the injections were discontinued.

Of the remaining two cases where erysipelas was produced, one showed marked decrease in the size of the tumor, but the effect in checking the growth was temporary. The fourth case died on the fifth day as a result of the erysipelas. In these five days the sarcoma had decreased markedly in size.

The uncertainty of being able to produce erysipelas when desired (failure having occurred in two-thirds of my cases) coupled with the fact that frequently repeated injections of the liquid cultures of the erysipelas germs had produced a marked beneficial effect upon the tumors, led me to attempt some plan of isolating and using the active principle of the germ. My first experiments were made with liquid bouillon cultures, prepared by simply subjecting them to a temperature of 100 deg. C.

Injections of cultures thus sterilized produced similar reactions to the living cultures, though the reactions were somewhat less severe. The injections were not continued sufficiently long to ascertain the relative effect upon the tumors yet it was apparently less marked than the living cultures.

Considering the complex nature of the toxic products there seems good reason to suppose that certain changes were produced by heat in sterilizing the cultures. I therefore determined to obtain, if possible, a preparation of the toxic principles of the erysipelas germ without the use of heat. This was finally able to do through the skill of Dr. Alexander Lambert, of the Laboratory College of Physicians and Surgeons. The streptococcus was grown in bouillon for three weeks and then filtered through a modified Kitasato filter. The fluid thu

obtained was found to be *perfectly sterile*. It was then put in glass-stoppered bottles, and kept in a dark, cool place. This preparation I have now used in six cases of sarcoma. Some of the cases are still under treatment.

CASE I.—A boy sixteen years of age, German, with good family and personal history; was referred to me by Dr. L. B. Bangs, of this city, in January, 1893, for the treatment of a large, inoperable sarcoma of the abdomen and pelvis. Its transverse diameter was seven inches and its vertical five. It extended nearly to the umbilicus above, and was deeply attached to the pelvis below. In consistence it was exceedingly hard. Examination of a section removed proved it to be *sarcoma*. He was sent to me with the view of producing artificial erysipelas, but I decided to try first the effect of the *toxic products*. Injections of the preparation just described were begun early in February and continued in slightly increasing doses, at intervals of two or three days, for ten weeks. The doses varied from .5 c.c. to 1.5 c.c., and .2 to .3 c.c. of the toxic products of the bacillus prodigiosus were given to increase the reaction.

The treatment was discontinued May 5, 1893. Careful measurements, made from time to time, showed the tumor to be steadily decreasing in size and the general condition of the patient correspondingly improved.

He had been confined to bed much of the time before the injections were visible. Examination showed a small, movable mass in the abdominal wall, at site of original tumor, extending but a short distance above the pubes, measuring less than *two inches* in diameter. When the treatment was begun the measurements recorded were *seven inches* by *five*.

The boy gained ten pounds during the last month, and all bladder irritation, which was marked at the beginning, had entirely disappeared. During four weeks the injections were omitted, and as the tumor began to show signs of enlargement the injections were resumed. The case is still under treatment. The reaction following these injections has corresponded almost exactly with the constitutional reaction occurring at the beginning of an attack of true erysipelas. Within one-half hour to twelve hours after the injection a more or less defined chill occurs, usually accompanied by nausea and vomiting. Severe headache and general muscular weakness likewise are present. Within twelve hours the temperature rises from 101 deg. to 104 deg., depending upon the amount used. Locally the parts about the site of puncture become swollen and reddened. The local and constitutional reaction generally subsides in twenty-four to forty-eight hours. July 17, the

tumor has almost entirely disappeared, and there now remains scarcely more than some enlarged glands in the right groin.

CASE II.—Was the sarcoma of the back and groin, given in detail in the paper referred to. The sarcoma had twice disappeared under attack of artificial erysipelas, and had twice recurred. The final disappearance, caused by injections of toxic products, is all the more remarkable in the light of the previous history of the case. Four months have passed and there is absolutely no trace of recurrence.

CASE III.—*Recurrent Sarcoma of Thigh.*—The primary growth first appeared in the soft part just above the left patella, in July, 1889. It was removed in November, 1891. Local recurrence followed. A second operation was done in July, 1892, and a third in January, 1893. The interval between the recurrences became shorter and the rapidity of growth more rapid.

On March 12, 1893, examination showed a tumor two inches in diameter, attached to skin, but movable upon deeper parts, situated just above outer condyle of left femur, in region of old cicatrix. Just above the patella there was an induration two inches in area; a little further up there was a distinct, separate nodule, three-quarters of an inch in diameter.

The toxic products of erysipelas were begun March 12, 1893, and given in the same way as in the two preceding cases. Much larger doses were given, and even then no appreciable rise of temperature followed. The only reaction that followed was severe headache, general muscular pain and weakness. Locally the tumors became swollen, even after the injections, and later decreased in size.

While the *filtered cultures* (prepared without heat) were used the tumors not only did not increase in size but decreased considerably. The smallest one could scarcely be detected after six weeks. At the end of eight weeks, having no more of the filtered cultures on hand, cultures sterilized by heat were tried. A severe reaction, both general and local, followed. The temperature rose to 103.4 deg. F., and the patient had a severe chill. The cultures were exactly the same as previously used, except in the method of sterilizing—no heat having been used in the *filtered cultures*.

The injections were continued three weeks, but the tumors began to grow again, and on May 31 had attained the original size of March 12. The tumors were then removed by the knife, with the view of removing the larger part of the disease in the hope of destroying the remainder with erysipelas. The tumors removed were of the soft myxomatus variety, similar to case VIII \*, *loc. cit.*, when erysipelas produced only temporary improvement, therefore the prognosis is not so favorable.

\* American Journal of Medical Science, May, 1893,



CASE IV.—*Recurrent Sarcoma of Hand*.—This case, twenty-two years of age, a patient of Dr. Samuel Lloyd, had been operated upon several times for a sarcoma in the soft parts of the palm of the right hand. Local recurrence had followed every operation, and amputation of the arm had been advised by the surgeon and refused by the patient.

The last operation was done in January, 1893. The tumor recurred within a few weeks and grew rapidly. Injections of the *Toxic products* of erysipelas were begun in March and continued up to the present time. The tumor has not only ceased to grow but has diminished considerably in size.

CASE V.—*Recurrent Sarcoma of Axilla*.—The primary tumor was removed two years ago from the back. Recurrence followed in the axilla, and a second operation was performed in January, 1892. Local recurrence was observed in April, 1893, and grew rapidly. June 1, 1893, there was a flat, movable mass,  $4\frac{1}{2} \times 3$  inches and 1 inch thick, occupying thoracic side of axilla at site of former cicatrix. Several nodules could also be detected in apex of axilla.

The general condition of patient, who was a man forty-six years of age, was excellent. Injection of *Toxic products* of erysipelas, the same as in previous cases, was begun June 1, 1893, and continued at intervals of twenty-four to forty-eight hours. Scarcely any reaction followed, although the doses were increased very much, and the *Prodigious* products were added to the erysipelas; 100.5 deg. F. was the highest temperature reached.

The injections were kept up only three weeks, and as no decided reaction was obtained, the tumors were removed by operation, as far as possible; a nodule was found firmly attached to the axillary vein and almost encircling it. This could not be removed without resecting the vein, which, considering the improbability of being able to remove all the disease, was not thought advisable.

Inoculation with a virulent culture of erysipelas will soon be made. While the *Toxic products* were being used the growth was apparently checked, although no diminution in the size of the tumor took place. The fact that so little reaction occurred in this case may have been due in part to the non-susceptibility of the patient; but the fact that the cultures from which the products are made had become attenuated by age probably was the chief cause. The cultures themselves as well as the *Toxic products* lose their strength rapidly with age.

CASE VI.—*Sarcoma of Foot and Groin*.—The patient, a woman thirty-two years of age, had observed a small wart-like swelling upon the left instep two years previously. It had

twice been removed, but quickly returned. It remained very small, and never became larger than a cherry. In April, 1893, there was a tumor in the left groin the size of two fists, protuberous and ulcerated over a large area. A hard swelling extended above Poupart's ligament to within two inches of the umbilicus and to the median line in front. The ulcerating mass in the groin was removed by Dr. C. A. Powers at the New York Cancer Hospital, in April, 1893, and the following week injections of the Toxic products of erysipelas were begun. Good reaction followed doses of 2 c. c. The effect upon the tumors had not become noticeable when an attack of *accidental* erysipelas occurred. The erysipelas ran the usual course. The attack was not severe. The effect upon the tumor was only a temporary check, and no marked decrease in size was observed. As soon as the attack had subsided the tumor grew very rapidly.

The *Toxic products* were again given in large doses. The reaction gradually became less marked in spite of increasing doses. The largest dose was 3 c.c. of erysipelas products and .75 c.c. of bacillus prodigiosus products. The growth of the tumor was unmistakably retarded by the injections. They were discontinued for two weeks and then resumed. The short interval seemed to have restored the susceptibility, and good reaction followed. The case is still under treatment, but in view of the great size of the tumors when treatment was begun, nothing more than temporary improvement could be hoped for.

The results from the use of toxic principles of erysipelas, in the limited number of cases described, are sufficiently encouraging to make further experiments exceedingly desirable, and there is good reason to believe that most of the value of the erysipelas lies in these toxic principles.

Similar experiments have very recently been conducted by Dr. C. H. H. Spronck, Professor of the University of Utrecht, and published in the *Annales d L'Institut Pasteur*. October, 1892.

Spronck and his co-workers treated twenty-six cases of malignant tumors with a preparation of the toxic products of erysipelas.

Spronck, believing that the action of erysipelas upon tumors was for the most part systematic, made all of his injections *remote* from the tumors (usually in the gluteal regions).

He prepared the toxic products in the same way that Koch did his tuberculin, viz., by heating liquid bouillon cultures to 100 deg. C., after the addition of 5 per cent. glycerine, then evaporating to one-tenth the volume and finally filtering through porcelain.

This preparation was first tried on animals. In certain doses, varying with the virulence of the cultures from which it was derived, when injected into the circulation of a rabbit, caused death in from 24 to 48 hours.

The more virulent the culture the more rapid the death, and the smaller the fatal dose.

A dose of 10 to 15 c. c. per kilogramme weight of animal usually caused death within 48 hours. The symptoms preceding death were elevation of temperature, loss of appetite diarrhœa, albuminuria and paresis of posterior extremities. No changes worthy of note were seen at autopsy.

Spronck then experimented upon tumors in dogs. Some of the tumors were benign, others malignant. Subcutaneous injections of the toxic products were made in two cases at a distance from the tumors. The doses were repeated several times and increased in quantity, yet no effect was observed upon the tumors. They were removed, and examination showed the one to be a lipoma and the other a carcinoma (anus).

With five other dogs, however, there was a more or less marked effect upon the tumors. After several injections (remote from tumors) the color of the tumors became of a bluish red and the tumors warmer and more sensitive to touch. Subsequently there occurred a softening and necrosis of the neoplasms.

"In the two cases these latter changes manifested themselves with astonishing rapidity." After the treatment had been continued a short time the remaining portion of the tumors were extirpated and examined. Two were found to be *sarcoma* and three *carcinoma*. In all there were found a condition of fatty degeneration and necrosis with an infiltration of polynuclear leucocytes from the blood.

Spronck very properly admits that such changes frequently occur in malignant tumors, hence it would be difficult to prove the entire effect due to the injections, yet in view of the symptoms following the injections and the change in the tumors dating from the beginning of such injections, a causative relation seems indisputable.

One of his experiments upon the dogs is worthy of special note. A large dog had a *very hard* tumor the size of an infant's head situated in the region of the right shoulder. It was a local recurrence from a small tumor which had been extirpated the previous year. On the fourth day of the treatment the tumor developed a slight swelling, and at the same time it became of a bluish red color, warmer and more sensitive to touch. Shortly afterward, the consistence of the

tumor diminished, and on the eighth day fluctuation was present. Three days later the entire tumor was transformed into a soft fluctuating mass, covered only by the skin. Incision was followed by the escape of a voluminous sac filled with a puriform liquid, in which were suspended necrosed fragments of tumors, which proved on microscopic examination to be composed of detritus of the tumor and a large number of leucocytes. Somewhat later the dog died.

The autopsy showed that of the entire tumor there remained only a small fragment the size of a pullet's egg, where the tumor had been adherent to the skin. Microscopical examination proved it to be *adeno-carcinoma*. There can be scarcely any doubt that these wonderful changes were produced by the toxic products of erysipelas, and when we reflect that the tumor was *carcinoma* and not *sarcoma*, the significance is far greater.

With the co-operation of Meulin, Renssen, Salzer and seven other physicians, Spronck extended his experiments to twenty-five inoperable malignant tumors in man, eight sarcoma and the remainder carcinoma. The same preparation of toxic products already described was used and the injections were made without exception *remote* from the tumor. The utmost care was used in these experiments and the doses were very small.

The effect upon the tumors was by no means constant.

In a certain number there was no appreciable change; in a second class they continued to increase in size, but the growth appeared retarded; in a third class there was *complete arrest* of growth, and in a fourth *diminution* in size.

In the same patient, with several tumors, the tumors did not diminish with equal rapidity. While some disappeared entirely, a total disappearance of all tumors present was not observed in a single case. In most of them the improvement was only temporary. The effect upon Carcinoma was much less marked than upon Sarcoma.

Still in one case (recurrent cancer of the breast) there was produced an almost complete absorption of the lymphatic enlargements, though they afterward returned.

The most favorable effect was observed in a case of inoperable *sarcoma* treated by *Renssen*. After several weeks' treatment the primary tumor, of very considerable size, *completely disappeared*, and the secondary tumors were much diminished in size. They were no larger than a pea, with one exception, and that the size of a pigeon's egg. Failing to decrease further they were extirpated. Sufficient time had not elapsed to determine whether or not a radical cure had been obtained.



The symptoms following the injections were very similar to those observed in my own cases and already noted. Elevation of temperature varying with the doses used, and with different subjects, was the most constant symptom.

In most cases the rise in temperature began four or five hours after the injections, never went beyond 103.1 degrees and usually returned to normal at the end of twelve hours. In my cases the temperature has a few times risen beyond 104 degrees, but usually it has ranged between 101 and 103.5 degrees.

I have frequently observed a much more rapid onset, a chill occurring within a quarter of an hour after the injection, quickly followed by a sharp rise of temperature, nausea, vomiting, severe headache, general muscular pain, and malaise were more or less constantly seen. Spronck found that the relative susceptibility of the different patients varied greatly, some being entirely satisfactory. I have noted the same thing in my cases. Yet in one case that had failed to show any rise in temperature after frequent injections of my preparation of Toxic products (sterilized without heat) showed a marked rise, 103.4 deg., when cultures from the *same* source and of the same virulence, sterilized by heat, were used. The important difference, however, in the effect of the two preparations, was that the first, although producing less constitutional reaction than the heated cultures, caused a *diminution* in the size of the tumors (sarcoma) while the second failed to even check their growth. My experiments in this case together with others carried on in 1892, with cultures sterilized by heat, have convinced me that a portion at least of the value of the Toxic principles is destroyed by a temperature of 300 C.

Although I had practically arrived at this conclusion almost a year ago (before the publication of Spronck's cases), I was unable to obtain a good preparation of Toxic products of erysipelas sterilized without heat until February, 1893. My results, although they cover a smaller number of cases than Spronck's, are yet more remarkable.

In one case the sarcomata have entirely disappeared under injections of Toxic products, and the patient is still free from recurrence.

In a second case, a very large inoperable sarcoma of the abdominal wall, the tumor has so far diminished in size that only a small nodule remains. In two others there was decrease in the size, and they are still under treatment. The remaining cases are too recent to more than mention. In one, however, the improvement has been very doubtful.

The elaborate investigations of Roger with the toxic prod-

ucts of erysipelas, upon animals, recently published in Rev. de Med., December, 1891, show that instead of a single Toxic principle the erysipelas germ grown in bouillon forms a considerable number of soluble products, some of which differ so widely from others that they are directly antagonistic.

He further found that these Toxic products were capable of killing animals in doses of 13 to 20 c. c. per kilogramme weight and that they were precipitated by alcohol and destroyed by heat.

He also found that *filtered* cultures *not heated* in doses of 5 to 12 c. c., injected into the circulation of rabbits exercised a predisposing action, making the animal more susceptible to inoculation. On the other hand, *heated* cultures (104-110 deg. C.) rendered the animals immune.

In extremely large doses these products produced a more or less chronic form of septicæmia, which caused death in a few hours to several weeks. Space will not permit a more detailed description of these experiments. They are cited to prove that in the soluble products of erysipelas we have a very powerful and complex combination of active principles; that some are directly antagonistic to others; and finally that heat has a very decided effect upon them.

Aside from the difference in the method of preparation of the soluble products of erysipelas, my experiments differ from Spronck's in the fact that he sought for a systematic action alone, whereas I have endeavored to obtain both systematic and local action by making the injection into the tumor or its immediate vicinity, and I believe my results show this to be the best plan.

Spronck in conclusion says: "If in man the results have been less satisfactory (than in dogs) one should not lose sight of the numerous difficulties that lie in the way of their first attempts toward a clinical application, or of the unfavorable conditions in which we have been placed, or finally of the fact that in nearly all of the patients the tumors were in a very advanced stage." He further states: "I believe that I am authorized to conclude that the products of erysipelas, in certain cases at least, can act in a *curative* manner upon malignant tumors."

While the treatment of malignant tumors by erysipelas inoculations or by injections of the *Toxic principles* of erysipelas is still in the experimental stage, we can not but recognize that a long step in advance has been made and there is good ground for confidence that further investigation along these lines will be followed by even more brilliant results than those already obtained.

POST-GRADUATE.

18 East Thirty-second street.

## THE ESTABLISHMENT AND MAINTENANCE OF AN ARTIFICIAL URETHRA ABOVE THE SYMPHYSIS PUBIS IN CHRONIC PROSTATIC OBSTRUCTION.\*

By D. J. HAYES, M. D., Milwaukee. Professor of Surgery of the Genito-Urinary System in the Post-Graduate School of Medicine, Chicago, Ill.

I propose to call your attention to an operation for the relief of an extremely distressing and painful form of disease in men, the relief of which was very inadequate until of very recent date. I refer to the establishment of a urethra above the pubic bone in chronic prostatic obstruction.

From a series of over 200 post-mortems prosecuted by Sir Henry Thompson on male patients over 55 years of age, to determine the percentage of those who were affected with prostatic enlargement it was found that about one in three had more or less enlargement, and only about one in seven of those exhibited symptoms of the disease during life. Consequently we may expect about one man in twenty who is approaching 60 years of age to consult us for this difficulty.

As a rule, enlargement of the prostate takes place in all directions, with occasionally the development within it of separate tumors resembling uterine fibro-myomata. Sometimes only one lobe is affected, and again the whole trouble may be due to overgrowth of the middle lobe, which when enlarged gives rise to complete retention.

As the gland enlarges, the length of the prostatic urethra increases, often reaching four inches in length. The vesical orifice is thrown up behind the symphysis, and the curve of the prostatic urethra is much increased, which explains the difficulty often experienced in introducing an instrument into the bladder, and has led to the use of specially devised instruments to traverse the deformed urethra.

In advanced prostatic obstruction the greater portion of the bladder is lower than the internal orifice of the urethra, and forms a pouch behind the prostate. More or less residual urine is left in this pouch after each act of micturition. The obstruction as well as the residual urine increases from month to month and from year to year, and undergoes ammoniacal fermentation from the presence and action of putrefactive bacteria, producing irritation and progressive infection. Inflammation extends from the mucous to the submucous and muscular coat. The bladder walls become hypertrophied from over work. <sup>1</sup>Contraction takes place with loss of extensibility.

The urine which is loaded with mucus, pus and putrefac-

\*Read in the Section of Surgery and Anatomy, at the Forty-fourth Annual Meeting of the American Medical Association.

tive bacteria, is forced back into the ureters, distending and producing inflammation in them.

On account of the stagnation of putrid urine in the bladder and ureters, more or less of this urine is left in the pelvis of kidneys, ending in pyelo-nephrosis or surgical kidney, from which the patient dies, but not until after months and perhaps years of the most intense suffering.

Many cases of cystitis due to prostatic obstruction are entirely relieved by rest and attention to the general health, while in more advanced prostatic disease the distressing symptoms may be relieved by withdrawal of the residual urine with the catheter and thoroughly irrigating the bladder with antiseptic solutions and proper internal treatment. In another class of cases of which I wish to speak more fully the obstruction is more or less complete. Perhaps not a drop of urine can be passed without the use of the catheter. The bladder is much contracted and the use of the catheter becomes a necessity from fifteen to twenty times a day. The increased growth of the prostate makes the canal difficult to traverse, alike for the surgeon and patient. He only experiences half an hour's rest at night when a desire comes to urinate; again another attempt is made to pass the catheter through the deformed urethra. His powers are taxed to the utmost, for continuous sleep is out of the question and his health rapidly declines. Among some of the many operations which have been devised from time to time for the reduction of prostatic hypertrophy may be mentioned, first, the injection into the prostate with a curved needle of a solution of iodine and iodide of potassium (Heine), which not only gave negative results, but proved to be dangerous.

Many competent observers have spent both time and money with electricity without showing any brilliant results. The different methods of compression which have been used have not been attended with success, notwithstanding their frequent and continued recommendation. Internal medical treatment has been as effectual as compression.

Mercier's method of punching out a portion of the middle lobe through the urethra by a specially devised instrument has had few advocates and was never used to any extent on this side of the Atlantic.

Another operation which is more recent, and with which the name of Reginald Harrison is intimately connected, consists in opening the bladder by a median perineal incision, dividing the obstructing portion of the prostate and retaining a tube in the opening for six or seven weeks; large bougies are subsequently passed to keep the wound open, when finally it is allowed to heal. The low operation has many disadvantages.



First, the patient who is generally in a poor condition of health from long suffering is confined to bed for many weeks; secondly, when the tube is withdrawn and the patient is up and around, there is a constant dribbling of urine, and when the opening is allowed to heal, all the old symptoms are liable to recur.

Prostatectomy, supra pubically through the perineum, or combined, has given brilliant results in many cases in the hands of McGill, Guyon, Moullin, Belfield, Keyes and other enthusiastic workers in the department of surgery. As a rule, patients who submit to this operation are men well advanced in life, and worn out by long continued suffering have renal complications, and the mortality must necessarily be high from uremia and sepsis. The question now arises, can anything be done by any other operative measures for the permanent relief of those cases? It can be answered in the affirmative. By the establishment and maintenance of a urethra above the symphysis pubis. The honor of having first planned and performed this operation belongs to Dr. Hunter McGuire. The technique of the operation is about the same as supra pubic cystotomy for vesical calculus. The patient is prepared the same as for any other abdominal operation. The rectal bag is introduced and distended with fluid. The bladder is thoroughly cleansed with a one-sixth per cent. solution of salicylic acid, which has the advantage over other solutions of removing completely all the mucus and pus from the bladder wall, which is an important point in the subsequent steps of the operation.

The bladder is distended with the same fluid. The supra pubic region is thoroughly disinfected. The incision is made down to the bladder in the usual way and the bladder is opened on a line with the upper border of the pubic bone. The rectal and bladder distention raises the bladder in the pelvis, consequently the peritoneum is not encountered.

After the bladder is opened the interior is thoroughly explored for vesical calculus, tumors, etc. If there is obstruction at the outlet of the bladder due to projection of the middle lobe, its removal should be attempted if the patient's strength will admit. Any of the tissues should not be lacerated during the operation; particularly is this true of the loose cellular tissue surrounding the bladder as it opens avenues for subsequent urinary infiltration. The bladder walls are not sewed in the wound but allowed to drop back into the pelvis. A large gum catheter is introduced through the wound into the bladder and the urine removed by siphon action. When the wound contracts down to the size of a ten or twelve English catheter the

opening is maintained by wearing a plug which resembles a tracheotomy tube, at least a portion of the time. When the desire comes to urinate the plug is removed and the bladder empties itself through the artificial urethra with considerable force. The urethra which is now established is from three-fourths to one and one-half inches in length. In the intervals of urination the recti muscles and other tissues close the opening and there is no dribbling of urine whatever.

Within the past year I have established an artificial urethra above the symphysis pubis in two cases; both were very great sufferers and in both the time had arrived when the introduction of the catheter was difficult both for the patient and surgeon. One of them has kindly consented to appear at the meeting this afternoon. He is a man of nearly 72 years of age, and has always enjoyed excellent health until about five or six years ago, when his trouble first commenced with frequency of urination, particularly at night. He grew progressively worse, and for the past six months previous to the operation he was not able to leave the house, and was introducing the catheter from fifteen to twenty times a day. He was suffering fearfully, notwithstanding the use of large doses of morphine. His urine contained large quantities of mucus pus and bladder epithelium. Although he had been a very great sufferer for some time no evidence of renal disease could be found by either chemical or microscopical examination of the urine, which is exceptional in a case that has had disease in the lower portion of the urinary tract so long. He was very anæmic and his health was rapidly declining. He consented to an operation, which was performed on April 11, 1893. The preparatory treatment consisted in irrigating the bladder twice daily for three or four days previous to the operation with a saturated solution of boracic acid containing one-sixth per cent. of salicylic acid, trit. repens. and salol internally. The bladder was opened in the usual way and in a pocket behind the enormously projecting prostate were found a few small stones, which were removed. The bladder was allowed to drop back in the pelvis and a large drain introduced through the wound into the bladder. No attempt was made to remove any of the projecting portion of the prostate, as the patient's enfeebled condition would not admit of it.

There was some temperature following the operation. The bladder was irrigated three times daily through the tube and dilated as much as possible by hydraulic pressure. He was relieved from pain immediately after the operation, and has taken no morphine since. His urine is now clear from mucus and pus and he is able to hold his water from three to five hours during the day and only arises once or twice at night. When

the wound contracted down to the size of a number 10 English catheter the plug which resembles, as you will observe, a tracheotomy tube, is introduced for at least a portion of the day to maintain the opening. The patient is now able to empty the bladder completely through the artificial urethra, which is just one inch in length. The urine is often expelled several feet from the body. There has been no dribbling of urine whatever since he is up and about. He has gained very rapidly since the operation, and you will observe that he is in good condition. He eats well and sleeps well, and goes to his place of business daily. He is an enthusiastic advocate of the operation, and those who wish to examine may do so.

The next case was a man 64 years of age. He had been suffering for more or less for six years; for some months previous to the operation he was passing a catheter from twelve to fifteen times a day. He had a severe cystitis and his bladder was contracted; rectal examination with a sound in the bladder showed the prostate greatly enlarged in both longitudinal and transverse diameters. His urine was loaded with mucus, pus, and occasionally contained small quantities of blood. He had been treated for some time with antiseptic irrigations of bladder and morphine suppositories. The operation was made in the usual way; the bladder walls were found greatly thickened and sacculated.

In the course of two weeks he was up and about, and when the wound contracted down to a number 10 English catheter, which was about six weeks, the plug was introduced to maintain the opening, and worn a portion of the time. There was some necrosis of the prevesical tissues due to contact with the septic urine. To obviate this danger Dr. W. T. Belfield, of Chicago, recommends making the operation in two stages; at the first operation merely exposing the bladder and packing the wound with gauze until granulations are established, five to seven days, then opening the bladder and completing the operation. The urine is now free from mucus and pus, and he is able to hold it from three to five hours at a time. Both patients are enthusiastic advocates of the operation.

The question might be asked: Is this simply a palliative or ultimately a curative operation? The limited time that has elapsed since my operations will not admit of my answering this question from my own personal knowledge. Dr. McGuire, who has had a large experience with the operation, reports gradual reduction of the size of the prostate with final restoration of the powers of micturition by the natural route. This is not unreasonable to expect when we consider the greater portion of the hyper-plasia is due to the disturbance of urination

which constantly exists. And when the bladder and prostatic are put at rest gradual absorption of the obstructing tissues might take place. No case in the whole field of surgery can appeal more to our sympathies than a man with advanced cystitis due to prostatic obstruction, and in no case should a surgeon stand by and use simple palliative measures when a radical operation performed early will save the patient long and indescribable suffering.—*Journal of American Medical Association.*

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AN OVARIAN TUMOR WEIGHING 111 POUNDS REMOVED FROM  
A CHILD OF FIFTEEN, WHOSE WEIGHT WAS SIXTY-EIGHT  
POUNDS.

By W. W. KEEN, M. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College.

Miss B., of Benazette, Pa., was first seen by me at Driftwood, Pa., February 26, 1892, at the request of Dr. V. K. Corbett, of Caledonia. She was then fourteen years of age and had never menstruated. About eighteen months before I saw her, her abdomen began to enlarge. Six months afterward Dr. Corbett was consulted for an attack of considerable pain in the left side of the abdomen. He found that she was only voiding eight ounces of urine in twenty-four hours, but under proper treatment this soon reached a quart in amount, and has remained so ever since. He never discovered any albumen in the urine. In October, 1891, she had been tapped by a gynecologist, who is said to have diagnosticated a solid and probably malignant tumor, connected most likely with the liver, omentum, and ovary, and who deemed its removal not feasible.

I found the abdomen enormously distended with fluid and advised very strongly that a small incision should be made in the abdominal wall, so that I could determine the relations of the growth with accuracy. Her father, however, was not present, and had made it a condition that nothing beyond tapping should be done. I tapped her immediately, and removed considerably over three gallons of amber-colored fluid. When this was evacuated I discovered a lobulated tumor on the right side of the abdomen, under the liver and apparently attached to it. It was evidently cystic in part, there being at least two cysts perceptible. Each of these I tapped, obtaining from the upper one a light fluid and from the lower one a much darker fluid. On account of her age no vaginal examination was made. The fluids pointed strongly toward an ovarian cystoma. I again advised an exploratory incision.

April 29, 1893. The patient was finally brought to the



Jefferson College Hospital. She has been tapped twice since February, 1892, the last time in February, 1893, when six and a half gallons were drawn off. She is now enormously swollen. The measurements are as follows: From the ensiform to the umbilicus,  $16\frac{1}{2}$  inches; from the ensiform to the pubes,  $29\frac{1}{2}$  inches (this measurement in myself reaches from the ensiform to the middle of the calf of my leg); circumference, 49 inches. The veins over the abdomen are very large. Nothing can be made out in the interior in consequence of the enormous abdominal distention. Examination of the urine shows no albumen and a very slight trace of sugar (?).

*Operation.* April 30, 1893. A small incision was made in the median line above the umbilicus, as the greater mass of the tumor lay there. A large trocar was thrust in and evacuated a very large quantity of characteristic opalescent ovarian fluid. The escape of this fluid revealed through the abdominal wall large masses lying especially under the liver in the right iliac fossa. After this evacuation I enlarged the incision until it measured eventually about eight inches in length. I introduced my hand and found an enormous ovarian cyst, reaching up to the diaphragm and pushing everything out of its way. There were a number of moderate adhesions, chiefly to the belly wall and the omentum. The viscera were fortunately entirely free. The pedicle was only  $2\frac{1}{2}$  inches broad. The tumor arose in the right ovary, the left ovary being healthy but small.

The weight of the solid mass removed was twenty-seven pounds, and by actual weighing the fluid removed weighed eighty-four pounds, making a total of 111 pounds. The child herself weighed but sixty-eight pounds.

After the removal of the tumor I never saw so curious a looking abdominal cavity. It looked almost like that of an eviscerated cadaver in the dissecting room. The tumor had so pushed the liver to the right and backward, and the stomach to the left, that nearly the whole of the diaphragm was exposed, and flapped up and down with the pulsations of the heart. Down the middle of the cavity the bodies of the vertebra were entirely exposed, showing the aorta and vena cava to their bifurcations, the intestines being a very minor consideration and pushed to each side in the hollow of the ribs and the lumbar region. When the abdominal wall was sutured the abdomen was excessively scaphoid, the anterior abdominal wall lying directly on the aorta and vertebræ. The puckering of the skin, although moderately marked, was much less than I had expected.

When the operation was completed a glass drainage-tube

was inserted, and she was put to bed in very fair condition, in view of the gravity of the operation. The tumor was a multilocular cyst.

May 18, 1893. The child has made an uninterrupted recovery. The drainage-tube was removed on the fifth day, when the discharge had become almost nothing, but three days later a slight rise of temperature took place, and the discharge recommenced. A small rubber drainage-tube was therefore reinserted for a few days. She sat up at the end of two weeks, and will go home as soon as the slight discharge from the drainage opening ceases.

*Remarks.* I have not had time to search through the literature of ovariectomy, but so far as my memory serves I have never known a larger tumor removed from a child. It weighed just one and a half times as much as the patient. Her recovery has been most satisfactory in spite of a very poor and capricious appetite. The chief lesson the case teaches is the value of an exploratory incision in every case of doubt. Had this been done, instead of a mere tapping, in October, 1891, when the tumor was much smaller, the prognosis would have been much more favorable, and she would have been spared a year and a half of needless suffering. What seemed to be a most formidable operation really proved to be almost a simple one, the adhesions and the pedicle being most favorable for the speedy recovery which has ensued.—*Western Medical Reporter*.

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#### INOCULATION FOR SNAKEBITE.

From time to time travelers in Central and South America have brought back stories of a process of vaccination in common use among the *Indios bravos*, or uncivilized Indians, against the bite of venomous serpents, but not until recently has any European or American undergone, or even witnessed, the operation. In a recent number of the *Archives d'Anthropologie criminelle*, a writer describes the vaccination as practised upon himself, and gives strong testimony as to its protective value. Says he: Cocoyango removed one from a bottle containing many fangs of the *grago* (an extremely venomous serpent), and with it made three incisions near my ankle, each of them about an inch and a quarter in length. The wounds were allowed to bleed for a minute, during which time I became faint, and the perspiration stood in great beads upon my forehead or rolled down my face. He then dusted the wounds with a black powder, and the blood at once ceased to flow. This powder, I have since learned, is composed of the liver

and spleen, dried in the sun, and powdered along with the poison glands of the snake. Cocoyango put some of the powder in his mouth, along with the green leaves of forest trees, and chewed them vigorously together, then applying his lips to the wounds on my ankle forced into them as much as possible of the saliva, just about as one would "blow up" a bladder, and the operation was finished. I have since been bitten seven times by exceedingly dangerous serpents, gragoes, coral snakes, etc., and I never experienced the slightest effects. The Galibis, Bonis, Emerillons, and other Indians, as well as the Bosso negroes, and other indigines of Guyano, proceed in the same manner. They go so far as to claim that the children of a person thus vaccinated are proof against the venom, sometimes for several generations.—*Nat. Drug.—Pharmaceutical Journal of Australasia.*

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#### THE DIRECT TREATMENT OF FRACTURED BONES.

In his presidential address delivered at the recent annual meeting of the American Surgical Association, published in the August number of the *Annals of Surgery*, Professor Nicholas Senn, of Chicago, brought forward a practically new and, we should say, highly ingenious and efficient method of direct fixation of the fragments in the treatment of compound fractures and in that of simple fractures in which for any reason, such as non-union, it is thought best to expose the fracture by an incision and attempt direct immobilization. Really two original methods are described, each of which has its own range of usefulness. The first consists in the insertion of a tube of sterilized bone into the medullary canal of the injured bone—one end of it into one fragment and the other end into the other. This is manifestly so superior to the use of solid plugs of bone or ivory that Professor Senn is abundantly justified in proclaiming it as original. The tube is made from the shaft of a long bone of the turkey, the chicken, or the rabbit by enlarging the medullary canal by means of a small round file and then drilling numerous holes in its wall. Not only do these procedures greatly reduce the amount of foreign material that will sooner or later have to be removed by absorption—and, as the author points out, there is a limit to such absorption—but they vastly increase the surface upon which the forces of absorption are enabled to act; furthermore, this perforated tubular plug can be inserted with a minimum of disturbance of the marrow belonging to the fragments of the broken bone, and the perforations allow new blood vessels to penetrate from the medullary

cavity to the osseous shaft. The plug constitutes, in short, an absorbable intra-osseous splint that effectually prevents slipping of the fragments, while interfering as little as could be hoped for with the normal anatomical conditions.

The other method is by the use of a bone ferrule slipped over the fragments, care being taken not to disturb the periosteum more than is really necessary. "The ferrules are made," says Professor Senn, "of different sizes from fresh bone obtained from the slaughter house or butcher shop. For the humerus and femur of the adult the femur of an ox should be selected; for the children the same bone of a smaller animal will answer the purpose. For the tibia the corresponding bone of the animal is chosen. With a sharp saw the shaft of the bone is cut transversely, the length of the sections corresponding with the desired width of the ferrule, which will vary from a quarter of an inch to an inch. With a round file the medullary canal is enlarged until the thickness of the bone does not exceed one-sixth of an inch; in some instances a much thinner ring will furnish the necessary lateral support. If the ferrule is longer than an inch it should be perforated at a number of points, in order to furnish so many avenues through which the products of tissue proliferation and the new blood-vessels can reach the tissues outside of the ferrule, and *vice versa*, and also with the intention of facilitating the absorption of bone after the fracture has become consolidated. Ferrules made of the tibia should retain the shape of the bone, in order to adapt their lumen to the treatment of fractures of the tibia. Sterilization is effected by boiling for an hour or more, after which the rings are kept immersed in sublimate alcohol (1 to 1000) ready for use." It is thought that the ferrules should be a little too large rather than at all too small, for a large one can be wedged tight by means of pieces of aseptized bone, but there is great danger of breaking a small one in the subsequent application of the plaster-of-Paris splint, which auxiliary means of immobilization is required whichever method of direct fixation is employed. In cases of compound fracture, if the wound is of a kind not to call for drainage, it should be closed with buried sutures; in any case a fenestra should be left in the plaster splint through which the wound may be inspected and treated.

Professor Senn closes his most instructive address with the following conclusions:

1. Direct fixation of the fragments is indicated in all compound fractures in which perfect retention can not be secured by simpler measures, and in the treatment of ununited fractures requiring operative interference.
2. This method is also



justifiable in the treatment of certain forms of subcutaneous fractures in which reduction and retention can not be accomplished without it. 3. Free exposure of the fragments in compound fractures secures the most favorable condition for thorough disinfection. 4. Perfect reduction and direct fixation of the fragments are the most reliable prophylactic measures against delayed union, non-union and deformity. 5. A compound fracture should be regarded in the same light as an injury of the soft tissues, and should be treated upon the same principles, viz.: accurate coaptation of the different anatomical structures and perfect retention by direct means of fixation, aided by an efficient external support. 6. Bone suture and metallic, bone and ivory nails do not furnish the necessary degree of support and immobilization in the direct treatment of fractures characterized by a strong tendency to displacement. 7. The solid intra-osseous splint of ivory or bone, as advised by Heine, Langenbeck and Bircher, is objectionable, because it interferes with the ideal production of the intermediate callus, and its spontaneous removal is beyond the absorptive capacity of the tissues. 8. The hollow, perforated ivory or bone cylinder devised by the author answers the same mechanical purpose without the objections which have been charged against the solid cylinder. 9. The safest and most efficient means of direct fixation of oblique fractures is by a bone ferrule, which must be applied in such a manner that it surrounds both fragments. 10. Such a circular absorbable direct splint prevents lateral and longitudinal displacement to perfection. 11. Rotation of the limb below and angularity at the seat of fracture must be prevented by a carefully applied circular plaster-of-Paris splint. 12. For fractures not requiring drainage the entire wound should be closed by buried and superficial sutures, as the bone ferrule is removed by absorption. 13. In suppurating wounds the bone ferrule should not be removed until direct fixation has become superfluous by the formation of a sufficiently firm union between the fragments. 14. The external splints should be applied in such a manner that it does not require a change throughout the entire treatment, permitting at the same time access to the wound, should this become necessary. 15. Direct fixation of a fracture combined with perfect immobilization brings the different anatomical structures of the broken bone permanently into their former normal relations, preparing the way for the early initiation and speedy consummation of an ideal process of repair and the realization of a perfect functional result. 16. Should future experience demonstrate that bone is not sufficiently absorbable, the same kind of ferrules can be made of partially decalcified bone or chromicized catgut.—*New York Medical Journal*.

## MEDICINE.

## DELIRIUM TREMENS.

By GEORGE B. TWITCHELL, M. D., of Cincinnati.

"A rigor and delirium from excessive drinking are bad."—*Aphorisms of Hippocrates.*

The tendency at present is to underrate the importance and gravity of delirium tremens. We are warned against the old-fashioned free use of sedatives: "Feed your patient and he will get well;" "When he is exhausted he will fall asleep anyway." Such advice is often heard. The descriptions of delirium tremens to be found in the text books are very meagre and they frequently entirely omit many of the important phenomena of the disease. Monographs describe many different forms and are often confusing. This confusion and indeed many of the current ideas as to the prognosis and treatment of this disease depend upon a very misleading conception, which is, that "delirium tremens is really an incident in the history of chronic alcoholism." (Osler.) This is true, but the same might be said of cirrhosis of the liver. Delirium tremens is as much a specific disease as cirrhosis of the liver is; but the breadth of the idea that it is "only an incident" hides this important fact, and consequently many of our conceptions of this dangerous disease are founded on the observation of comparatively mild pathologic conditions. The aim of this paper is to give to delirium tremens its true importance as a disease.

The clinical observations to be used here were made during an eighteen months' service as externe and interne at the Cincinnati City Hospital. A great many cases of all grades of alcoholism are continually received at this institution, and while an effort is made to exclude simple "drunks," the policy of the receiving physician is always to err on the side of safety. So it is that many cases are received that otherwise would not be. It is extremely difficult to estimate the extent of a drunken man's illness. Alcoholism, in all its minor forms, is associated with an hysterical condition that is hard to recognize. A man is rarely so drunk as he pretends to be. When a man is suddenly sobered by some necessity, it is simply this hysterical condition that has disappeared. However, it must be remembered that nothing else so completely disguises other disease as does alcoholism. A very severe injury may be hidden under drunkenness. All the symptoms of pneumonia disappear before a concomitant delirium tremens.

During the eighteen months that I served at the City Hospital, 360 cases of alcoholism were received. Of these, 132 had delirium tremens. Many cases were under my care, or at least where I had opportunities of observing them. Others I did not see, but I obtained my knowledge of them from the clinical records. Every possible precaution was taken to insure accuracy. However, certain errors were hardly to be avoided. Probably the 360 cases of alcoholism contained more than 132 cases of delirium tremens. The cases overlooked were probably abortive cases. The inclusion of these cases (could they have been positively identified) would have reduced the death rate given. The error is probably not very great, and is perhaps the only one that could have occurred in compiling the statistics.

**ETIOLOGY.**—Sometimes a man goes directly from drunkenness into delirium tremens, but more frequently the disease makes its appearance as he begins to sober up. Anstie says that the first symptom is a distaste for alcohol. I have not noticed that. The disease often begins one, two or three days after the individual has ceased drinking. This accounts for the erroneous opinion once held that the disease was due to a withdrawal of the accustomed stimulant. No single drinking bout ever produces delirium tremens. It is the chronic drinker who develops this disease, and he may develop it without having ever been drunk. Usually, if not always, there is an exciting cause aside from alcoholism. Näcke lays great stress on this. By all odds the most frequent exciting cause is exposure to inclement weather. How severe this exposure frequently is can only be appreciated by one who has engaged in public practice among the lower and criminal classes. An accident may be the exciting cause. An habitual drinker, drunk or sober, is injured (perhaps a leg has been amputated), and the case goes on well for thirty-six or forty-eight hours, when the patient becomes nervous, sleepless, has hallucinations, and runs into delirium tremens that will be almost certainly fatal. A similar result may follow a simple fracture or any slight injury. Probably the majority of cases of surgical delirium are cases of delirium tremens. The delirium tremens may come on in the course of a pneumonia. Other acute diseases sometimes act as exciting causes.

**SYMPTOMATOLOGY.**—In describing the symptomatology of delirium tremens, it has been found convenient to divide its clinical history into three stages. This division must of necessity be somewhat artificial, and it must not be expected that every case will present the stages in a typical form, especially as recovery may take place at any time in the first, second, or third stage, and death in either the second or the third.

*Incipient stage.* As the disease makes its appearance the subject becomes restless and does not sleep well. If he falls asleep, his sleep is haunted by dreams that soon awaken him. The minute he closes his eyes hallucinations pass before his mental vision. During this stage he is rational and *fully appreciates the character of the disease that is approaching*. He now truly has the "horrors." He may be tremulous, but usually he has only the slight tremor that follows every debauch. This is not nearly so pronounced as the true tremor of delirium tremens. At any moment he may become wildly delirious, and, losing the mental control he still has, pass rapidly into the violent stage, becoming dangerous to himself and others. In the incipient stage the patient also exhibits the usual gastric symptoms that follow ordinary alcoholic intoxication.

The incipient stage may last one or two days, to be followed by the violent stage or by gradual recovery. First attacks rarely go beyond this stage. Probably fully half of the cases of delirium tremens that recover do so at this time. At the City Hospital such cases were called *impending delirium tremens*. These are cases that Näcke calls *abortive delirium tremens*.

*Violent stage.* The violent stage begins with the true delirium. Sometimes it is ushered in with a violent epileptiform convulsion. Epilepsy in connection with delirium tremens has often been described, and, of course, delirium tremens may occur in an epileptic; but delirium tremens does not cause epilepsy, whatever hereditary alcoholism may have to do with it.

Convulsions were rarely seen at the City Hospital, although occasionally a patient in the violent stage would be received with a history of having had a convulsion. The convulsion may be exactly like that of epilepsy, with the exception, perhaps, of not having the cry. However, it is not epileptic, but should rather be called epileptiform. The patient may recover from a convulsion and be but very slightly delirious. Soon, however, the delirium increases. Krukenberg considers the convulsion "as an initial symptom of the delirium itself." Moeli states that the epileptic attack increases the gravity of the prognosis.

Rapidly, but perhaps by inappreciable degrees, the visions that the sufferer knew did not exist, become realities to him. The patient starts suddenly, turns his head, listens, or looks about him suspiciously. He may still appear rational and deny having hallucinations, probably because he even looks upon his attendants with suspicion. He becomes violent, struggles to free himself from imaginary foes, and perhaps screams at



the top of his voice. Hallucinations, illusions and delusions, often, but not necessarily, of a persecutory nature, crowd upon his mind. Illusions are now much more frequent than hallucinations. These may be of sight, hearing or smell. Those of sight are most common, and are probably often connected with changes in the retina and optic nerve. A patient will often be seen going through some definite motion, as if at his work. His hands may move as if he were unraveling some endless skein. I have seen a printer go through the motions of setting type. Sleep is almost impossible.

The tremor is very pronounced. It is quite different from the slight tremor of all drinkers, which is easily controlled by the use of whiskey. The true delirium-tremens is much greater; it is increased by an effort to use the muscles. In severe cases, especially when temperature is elevated, the tremor persists even during sleep. It usually begins in the tongue and upper extremities, and finally also affect the legs. It is most marked in the hands.

The patient, on account of the mental condition, feels no pain from the most severe injury. He throws a broken leg about as if it were sound. The symptoms of a pneumonia are completely masked. There is anorexia, but vomiting is very rare. Constipation is the rule. The temperature is variable. There may be very little fever or the temperature may run up to 104 deg., or higher, without pneumonia or other complication to account for it. The patient often sweats profusely. The urine is scanty, high colored, and usually contains some albumen. At this time the patient may rapidly wear himself out and die. This is usual in cases with severe injuries or pneumonia. The disease may run a comparatively mild course throughout this stage. The great excitement, however, is not of long duration, rarely lasting longer than three or four days; but at the end of this period the exhaustion does not always lead to natural sleep, as many clinicians would have us believe; it often leads to a peculiar typhoid state presently to be described.

After the violent stage is well developed the prognosis becomes grave. Death may take place very rapidly, the entire disease having lasted perhaps but two days. Pneumonic and surgical cases usually die in this stage; so also do the febrile cases of Magnan. One fatal case (complicated with simple fracture of the tibia) that corresponded to the description of Magnan was observed.

*Typhoid stage.* The patient gradually passes from the previous condition into this state. But while this stage not infrequently follows a very violent second stage, it more often

occurs in cases that from the beginning have had a more quiet delirium, and, indeed, from the start, have had somewhat of a typhoid character, which became more marked as the disease developed. It is the patients that have been drinkers for years, and perhaps have had many mild attacks of delirium tremens, that exhibit this stage most perfectly.

As this stage develops, the delirium becomes quiet. The patient loses his fear of the hallucinations, nor indeed are hallucinations frequent, if they exist at all. Illusions, however, are very frequent early in this stage, and are not usually of a persecutory nature. The patient tugs at his shackles, and thinks he holds the reins of a team of horses. This illusion is very common. Illusions of hearing are frequent.

The typhoid state gradually deepens. The patient is extremely tremulous. He is never awake, and rarely asleep. He is easy to control, but needs constant watching, just as a case of dementia would. He may get up and wander aimlessly about. His speech becomes more and more of a mumble, and finally entirely unintelligible. When sharply told to put out his tongue he protrudes it slowly.

He passes urine and feces in bed or anywhere. Albuminuria is usual. The pulse is weak and rapid. There is always some elevation of temperature, although it rarely rises above 102 deg. until the end. Cheyne-Stokes breathing is occasionally observed. The conjunctivæ are injected, the eyes watery, and the eyelashes frequently glued together. The pupils are normal, or react slowly.

The patient lies with his mouth open, his tongue and lips dry, and his breath extremely fetid. One of the cases observed developed a parotiditis, probably by infection through the ducts from this foul mouth. The patient usually takes sufficient food. The bowels are constipated.

The subject lies in this condition for six or eight weeks, or even longer. He gradually grows weaker. One day his temperature runs higher than usual, reaches 104 or 105 deg., or even higher (in one case 108.2 deg.), and he then dies.

A small proportion of cases recover, even at this stage of the disease. The great majority die. This sequel to the violent stage of delirium tremens, for all that it is hardly mentioned in the literature, is by no means rare. At the City Hospital it was often called alcoholic meningitis. Leptomeningitis undoubtedly does occur with alcoholism as an important etiologic factor, but when it occurs it presents more definite signs of meningeal inflammation. Paralysis of the third nerve occurred in one alcoholic case in which undoubted meningitis was proved at the necropsy.

Näcke describes a type of chronic delirium tremens which corresponds to this typhoid stage. He uses the term typhoid in describing it. The *chronic continued delirium tremens* of Rose may be the same. However, many of the chronic forms that have been described seem to be rather cases of true insanity. The descriptions of these forms are often unsatisfactory.

DIAGNOSIS.—Usually the diagnosis presents no difficulties. The conditions to be excluded are: acute alcoholic intoxication, psychoses made prominent by drink, alcoholic insanity, delirium of infectious diseases, and mania.

The diagnosis of the third stage may be difficult if a previous violent stage has not been prominent, or has perhaps not been observed. In making a diagnosis of delirium tremens in the early stages, it is well to remember that it is the rule for a man to have a rational period between an intoxication and the true disease. It is sometimes necessary to watch a case a few days to exclude alcoholic insanity. The tremor has diagnostic importance, but a slight tremor is usual in all forms of alcoholism.

PROGNOSIS.—Statistics show a mortality of from 2 per cent. to 35 per cent. Probably this variation depends, to some extent, upon what is included as delirium tremens by the various observers.

Of the 132 cases, 2 (while in the typhoid state) were removed by friends. The result in these cases is unknown. The total mortality of the 130 cases was 35.4 per cent. Of 12 cases complicated by pneumonia 10 died. Of 9 cases complicated by surgical injuries, in only one was the injury a dangerous one of itself. The other injuries were simply fractures (usually of the tibia, or about the ankle), crushed toes, fractured lower jaw and scalp wound. Only 2 recovered (the scalp wound and jaw cases); 6 died in the violent stage and 1 at the end of a long typhoid stage.

Of the 109 uncomplicated cases 29 died—*i. e.*, 26.6 per cent. Of the 29 deaths 20 occurred at the end of the typhoid stage and 9 during the violent stage. Of the 80 recoveries 33 took place during the incipient stage, or, in other words, were abortive cases; 7 recovered after the typhoid stage, and 40 recovered after the violent stage had commenced, and without going into the typhoid stage. Many of these 40 cases were very mild.

PATHOLOGY.—The question as to the pathology of this strange disease is not an easy one to answer. Autopsies, however, make some suggestions. When death occurs after the typhoid stage, the post-mortem examination shows a wet brain—in fact, a very wet brain. There is serum everywhere, in

the ventricles and between the membranes. The arachnoid is so water-logged as to appear gelatinous; it may be faintly cloudy, but it is never opaque. The vessels of the pia are dilated. The brain has a wet, glistening appearance, identical with that of the *wet brain of nephritis*. This condition has often been mistaken for leptomeningitis. It is not a meningitis at all. The difference between an inflammation and an edema need not be discussed here.

In the cases that die during the violent stage, the arachnoid has not so much of a gelatinous appearance, as if, perhaps, the edema were not of so long a standing.

The lungs are also edematous, and especially marked in cases dying after the typhoid stage is a condition of hypostatic pneumonia of a high grade. A piece of the lung will sink in water. This condition is sometimes so marked as to lead to its being mistaken for pneumonia, and the sudden high temperature that occurs just before death gives some color to the idea. Microscopic examination reveals the error. Of course, this condition is practically the same on both sides and is limited to the lower lobes. A cut is smoother than a cut through an area of red hepitzation. It should not be forgotten, however, that pneumonia may occur.

The kidneys are probably always affected. In the post-mortems held on the cases observed the lesions were frequently quite extensive. Interstitial nephritis, sometimes of a high grade, was always present, while parenchymatous changes were by no means rare. Large white kidneys were never found. Krukenberg describes the kidney-lesions, both macroscopic and microscopic, at length. His valuable article should be consulted on this point.

The heart was of the usual granular-kidney type. Beginning cirrhosis of the liver was occasionally observed.

The old inanition-theory, that delirium tremens is due to the want of an accustomed stimulus, is rarely advanced now. The arguments that have been urged against it seem conclusive. However, this does not exclude the idea that delirium tremens is a form of cerebral asthenia. By cerebral asthenia may be understood a condition of insufficient nutrition, not that the food needed is alcohol, but rather that the alcohol has interfered with the nutrition processes to an extent making proper nutrition difficult, while perhaps the last intoxication has for a time shut off the nutrition almost entirely. Associated with this view of the pathology is the idea, very commonly held by both physicians and laymen, that delirium tremens does not develop except in men that do not eat while drinking. It seems to me that



this idea is founded on insufficient observation and is not entirely correct. The absence of food from the stomach makes the absorption of alcohol more rapid, but surely the deleterious effects of alcohol can and do occur in drinkers who eat. Of course constant drinking interferes greatly with digestion and nutrition.

Undoubtedly the symptoms of delirium tremens do present certain slight analogies with those of nerve-exhaustion, neurasthenia, especially perhaps in the way of the insomnia and the frightful dreams. It seems improbable, however, that a neurasthenic condition could be carried far enough to produce all of the phenomena of this disease. In cerebral anemia we never find conditions analogous to delirium tremens, unless indeed, accepting the theory of Traube, we consider the symptoms of cerebral anemia and edema.

The toxemic theory, *i. e.*, that delirium tremens is due to a toxic action of the alcohol imbibed (unless a very wide construction be put upon it), fails to explain the phenomena of the disease. No amount of alcohol will produce delirium tremens in a healthy man or animal not accustomed to drink. The symptoms of alcoholic poisoning are entirely different. It is hard to think of alcohol as a cumulative poison. And if alcohol should accumulate in the system, why would its effects differ from those of acute alcoholic poisoning, and why would two months, or even longer, be required to eliminate the poison?

More plausible is the idea that the disease is due to actual changes in nerve-tissues, the results of the repeated insults of the alcohol; that it is similar to alcoholic neuritis. This theory and the one allied to it, that delirium tremens is a form of insanity, is very often suggested. Delirium tremens and alcoholic insanity are far from identical clinically. Changes in the cerebral cortical cells have been described in delirium tremens, but they do not appear to be constant nor indeed frequent.

The symptomatology of delirium tremens strongly suggests that its phenomena are due to retained products of metabolism, poisons that may or may not be eliminated, rather than to chronic organic changes in nerve-tissue. Apparently the kidneys are constantly crippled.

On account of the large amount of kidney-parenchyma in excess of what is ordinarily needed, it is very difficult to draw inferences from the appearance of a kidney as to its efficiency. However, the constant presence of these lesions can not but exercise some influence on the symptomatology, if, indeed, they do not cause all of the phenomena of the disease.

Fürstner found albuminuria in 40 per cent. of all cases ex-

amined. He also reports three cases in which delirium tremens developed in well-marked cases of chronic nephritis. In these cases there was an enormous increase of albumen in the urine, and casts were also found. He attributes the albuminuria to a transitory hyperemia brought on by alcohol. These observations are very suggestive, as are also the similarities between the symptoms of poisoning in chronic nephritis and the symptoms of delirium tremens.

The eclampsias of the two diseases are identical. Delirium is a prominent symptom of uremia. Delusions of persecution are common in *folie Brightique*. It has been suggested that many of the hallucinations of delirium tremens are in reality illusions founded on alterations in the retina. These alterations may be of uremic origin. The tremor seems a specific symptom of delirium tremens. Muscular symptoms, however, not very different, also occur in chronic nephritis.

Osler, in speaking of uremia, says: "In some of these cases a condition of torpor persists for weeks, and even months. The tongue is usually furred, and the breath very foul and heavy." In the records of the Cincinnati City Hospital are to be found accounts of cases which entered in a condition of torpor, and finally died. The diagnosis made, chronic nephritis, was fully substantiated by the post-mortem examination. Yet these cases in every particular, both of symptomatology and of pathologic anatomy, were identical with the condition that over and over again was seen to proceed by inappreciable degrees from a typical delirium tremens.

Death from delirium tremens usually occurs at perhaps a little earlier age than does death in ordinary cases of granular nephritis. The first attacks of delirium tremens, which may occur in life, are not fatal, being usually abortive cases. This may be because the kidney lesions are not far advanced. Moreover, it is possible that elimination by organs other than the kidneys is also imperfect.

Many cases of uremia, and the other accidents of nephritis, such as edema of the brain and lungs, come on suddenly after a debauch or unusual exposure, and it is not impossible that the symptoms of delirium tremens may be of a similar nature, brought on by the extra work that the last debauch, with concomitant exposure, or injury, or pneumonia, throws on a pair of already crippled kidneys. It is well known how a chronic nephritis influences the prognosis of a pneumonia or an injury.

Uremia, as we ordinarily see it, and delirium tremens are not identical clinically; and for all that, in certain cases it is extremely difficult to differentiate between the two; yet, usually, does delirium tremens present a specific clinical picture. This is

an argument against the theory that has been here suggested. Another point is that while the severe uremic symptoms of interstitial nephritis are usually associated with a great increase of albumen in the urine, all cases of delirium tremens do not have albuminuria.

So, for all the arguments in favor of the theory that has been here suggested, it can not be said with any degree of certainty that it is the correct one. Further investigation must settle this. But whatever finally proves to be the true explanation of the phenomena of this disease, I believe it will be found that delirium tremens does not, and can not occur in subjects with healthy kidneys.

**TREATMENT.**—The frequent, if not invariable, presence of kidney-lesions, whether these lesions do or do not constitute the essential pathology of the disease, should not be forgotten. It is wise to begin treatment with a purgative, and to keep the bowels freely open throughout the disease. Practice shows the value of this. Diuretics, especially digitalis, have been used, and highly praised. Probably hot-air baths and similar procedures would be of great value, especially in the typhoid stage. I have never seen them used. Such means should be used with the idea of eliminating the toxic principles, whatever they may be.

But there are a number of other indications to be met, and in meeting them we are possibly employing physiologic antidotes, for surely certain drugs seem actually curative. By the proper use of sedatives we can prevent the nervous system from becoming overwhelmed, until time enough has passed for the toxins to be eliminated. And, indeed, it seems that violent nervous disturbances are of themselves injurious and dangerous, aside from exhausting the patient, increasing, perhaps, the very products of metabolism of which we are anxious to get rid. It is not considered safe to allow the convulsions of puerperal eclampsia to go unchecked. Yet no one would claim that the drugs used in checking them remove their cause; but the common opinion is that these drugs are to some extent curative. Surely morphine is so considered by many.

A great many cases of delirium tremens will get well without treatment. These are usually abortive cases. First attacks almost always recover unless associated with pneumonia or injury. A careful attention to the digestive system will hasten recovery. Capsicum, or some similar drug, aids greatly in overcoming a nervousness (present after every alcoholic intoxication) that seems associated with the disturbed stomach.

In the severer cases the stomach symptoms are not nearly so prominent. Vomiting never interferes with medication. Little can be done for the anorexia.

It is often impossible to tell whether a case in the incipient stage will stop or go on to more dangerous conditions. A radical treatment at this time is easier, safer, and more successful than later. Put the patient to sleep before the severe delirium comes on; it is easy now; it may be very difficult later. The earlier that chloral or other hypnotic is used, the easier can its results be obtained. Exhaustion does not assist the drug until the typhoid stage is reached, when the sleep obtained is not natural but a sort of semi-coma, and the time for benefit from the drug has passed; or, too often, the typhoid stage is never reached, and the exhaustion that we had hoped would aid us leads to a coma that rapidly ends in death.

The medical treatment in vogue at the City Hospital, when I was interne, was potass. brom., gr. xxx; chloral, gr. xx, every three hours—sometimes a little more and sometimes a little less. Very little else was used in the violent stage until the heart began to fail, when, of course, stimulants were administered. The results were not good. Bromides are absolutely worthless in such a disease. At the best their sedative action is a very mild one. Chloral was usually given in altogether insufficient doses. If the chloral or other drug does not make the patient sleep, it does no good and probably does harm.

In a few cases chloral was given in sufficient doses to produce sleep; 30, 45, or 60 grains, varying with the case, were given from every half hour to three-quarters of an hour, until the patient was asleep, and then if he was delirious on waking he got another dose, 30 grains being usually sufficient at this time. The cases so treated did remarkably well. When the treatment was commenced early, but small doses were required. One dose was often sufficient; more than three were never required. The patient often slept eight or ten hours without waking, and on waking was rational. Some of the cases so treated were very severe, one being complicated with a fractured jaw; yet all recovered. Of course, the unusually good results obtained were, in a measure, accidental. This treatment was not sufficiently used at the City Hospital to be very good evidence in favor of such dosage. In all, ten cases were so treated. But while this number is very small, it must be remembered that the results obtained by this treatment in former times were good. One great advantage this method has over repeated small doses is that the patient is not often disturbed. It is often very difficult to persuade a violent delirium-tremens patient to take medicine after the first two or three doses. Hypodermatic medication alarms the patient too much.

In pneumonia the tendency to heart failure is so great that perhaps chloral would be dangerous.



However, recoveries under any treatment are rare. Perhaps it is especially in surgical cases that this treatment is most valuable. In these cases the first intimation of delirium should be met by sufficient chloral.

Unfortunately many cases will die; no matter what treatment is used. It is astonishing how rapidly some of these cases, especially surgical ones, grow worse in spite of all efforts of physician or surgeon.

Shackles are a necessary evil. In the violent stage they are often indispensable, the milder substitutes, such as tying a sheet over the patient and to the bed, being altogether insufficient. In the later stages it is bad practice to use them, as they tend to keep the patient in one position and increase a tendency to hypostatic pneumonia.

A number of drugs were tried in the typhoid stage. Ergot had no effect. It was used with a mistaken idea as to the pathology. Digitalis seemed of some value, but did not accomplish much. Whiskey was used without very satisfactory results, a much better heart stimulant being found in strychnine. Some clinicians use whiskey freely throughout the disease. I am inclined to doubt the propriety of this. Strychnine is a most valuable drug in the typhoid stage, and indeed in every stage of the disease. It should be used very freely.

Patients in the typhoid stage should not be kept in one position. Possibly something might be accomplished in some cases by getting the patients out of bed occasionally. This, of course, should be done carefully.

The constant watching required through the many weeks that these cases often last is very exhausting to both physician and attendants, and is too liable to result in carelessness. Perhaps the greatest difficulty in treating delirium tremens is to persuade the attendants that the patients are really human beings, suffering from a disease.—*Medical News*.

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#### SOME SUCCESSFUL RESULTS IN THE TREATMENT OF EPILEPSY.\*

By DAVIS INGLIS, M. D., Prof. Mental and Nervous Diseases, Detroit College of Medicine;  
Member American Neurological Association.

A few days ago a medical friend jokingly said: "You neurologists see a lot of very interesting cases, but you can't do anything for them." My friend was a surgeon and has a surgeon's materialistic turn of mind. The immediate results of a surgical operation appeal very strongly to many minds,

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\*Read before the Michigan State Medical Society.

and, with the phenomenal advances which surgery has made in the past twenty years, there has spread through the profession a distrust of medicine and a skepticism in regard to any but surgical or mechanical methods. Nevertheless, it remains true that all the physiological processes of the body, every function whose wrong action makes the physician necessary at all, every one of these consists in dynamic activities which are not mechanical, which elude all surgical procedures, which even the microscope can not make visible. When surgery shall have won its final victories there will remain still the whole field of deranged physiological activity for the study of the therapist.

If we plain physicians can not bring about results fully as successful and as permanent as those accomplished by the surgeon, we ought to take in our shingles and take up with more productive labor.

The present tendency to surgical or mechanical methods of treatment is simply the swing of the pendulum of professional opinion to its extreme divergence. Hence result many useless operations, both in brain and abdominal surgery, operations neither justified by the symptoms previous to operation nor the results after it. There is abundant evidence that the more careful and judicious surgeons, as well as physicians, recognize this, and we may believe that professional opinion is beginning to return to the line of true therapeutics.

On the other extreme we find the physicians who fall into routine ways of drugging their patients. Here again, just as disastrous results follow as from unwarranted operations.

The following cases illustrate both the disastrous effects of unwise routine treatment and the positive results which careful medicinal and hygienic treatment can effect.

I have chosen epilepsy because it is of frequent occurrence, and in no form of nervous disease do routine methods of treatment more uniformly prevail. The particular routine treatment is that by bromides. That it should be so is not to be wondered at, for the text books, with great uniformity, give the bromide treatment and allude to any other treatment purely as secondary. The impression which the reader gets is that the other matters of treatment are of little value, hardly worth mentioning. For example, Starr in his *Familiar Forms of Nervous Disease*, says: "The chief reliance in the treatment of epilepsy must be in the use of the bromides." He then mentions tincture of simulo with scant approbation; states that "antifebrin has been tried in a number of cases without any favorable result." He advises inhalations of nitrate of amyl and nitro-glycerine, or codeine given *with* the bromides and

chloral. This completes the therapeutic resources in a work published in 1891.

Hare, in his handbook on epilepsy, is more generous; he notices digitalis and belladonna, but practically considers them simply as adjuncts to the bromide treatment. Cannabis Indica meets with his indorsement. Opium he condemns, and justly. Zinc he has no confidence in, nor has he in nitrate of silver. He speaks in more positive terms of the value of antifebrin or antipyrine than of any other drug except the bromides, but his main reliance is the bromides. I think any reader of Hare would naturally put his whole faith in bromides. He puts it this way: "There is no other drug known which can be relied on so absolutely, or which is so powerful in its action and devoid of *marked toxic effect* unless given in enormous doses," as the bromides. The general practitioner, then, is well justified in going straight on with the bromides, and yet I venture the assertion that the routine use of the bromides has been as disastrous to many patients as the unchecked progress of their epilepsy could have been. I believe further, that the bromides, as commonly used, are worse than the disease. No one has died suddenly of bromide poisoning, but that the bromides have toxic effects is, unfortunately, too evident.

To illustrate: On December 30, 1891, I was consulted by J. K., aged 30 years, married five years previously, a well-to-do merchant, of excellent physical development and undoubted good habits of life. In February, 1887, the first convulsion occurred, followed at long intervals by three others. Three years ago, however, he began to have what his family knew as "dazed spells," periods of transient unconsciousness, during which his conduct was irrational and he evidently had delusions; evidently attacks of petit mal. These occurred with varying frequency for three years, but steadily increased in number until, when he came under my care, he was having them every day, and often several times a day. When he came to me, he had almost complete loss of sexual power, and his mental condition was that which made the most serious feature in his condition. His memory was utterly unreliable and his mental processes sluggish. He had been obliged to wholly abandon any attempt to conduct his business affairs.

He had been steadily under treatment, first under physicians in the vicinity of his home and, later, under specialists in Chicago, and, as far as I could learn, the treatment was that of the bromides first, last and all the time. When the loss of memory had become so profound, he went to Chicago and was told by his physicians to continue the same bromide mixture. I should have mentioned that the patient was tormented by profuse, or,

as he termed them, "drowning" night sweats and nocturnal tremor.

The case seemed to me one of "marked toxic effect" of bromides. The patient was ordered to stop bromides absolutely; was put upon atropia gr.  $\frac{1}{20}$  *t. i. d.*, and given three grains of chloral hydrate at bedtime. Ten days later I noted "no spell in last eight days;" "no night sweats." This plan was continued until the end of March, when quinine in tonic doses was added. The friends of the patient were well pleased with the general progress of the case, although attacks of petit mal recurred at intervals of from six to ten days. The treatment, varied to suit the exigencies, consisted essentially in atropia and tonics, but no bromides, except on one occasion, when brom. potass., gr. 15, and chloral, gr. 5, were given for a few doses to control headache. Fld. ext. *cimicifuga* had no effect on the attacks of petit mal, but caused severe headaches. In July, 1891, seven months after he began treatment, I first put him upon antifebrin. Up to this time the petit mal kept along at a frequency, much better to be sure, than while he was saturated with bromides, but still discouraging in its persistence, about once a week. The subsequent course of the affair was much more gratifying. The intervals began to grow longer, the memory to return decidedly, and I can report to-day that the patient has had no spell since November 21, 1891. He has resumed full control and responsibility in his business, his memory is perfect, except that there is a period in his life, (that of bromide intoxication) of which he has no recollection. The treatment has been that started nearly two years ago, that is to say, he has kept up steadily either antifebrin alone, or with phenacetine. He now takes a small dose of antifebrin and phenacetine twice a day.

Such a case demonstrates two things. First, that bromides have "marked tonic effects," and, second, that medical therapeutics are as efficient as surgical.

Here is another, kindly sent to me by Dr. McKenzie, of Essex, Ont. Young married man, aged 30, foreman in a mill, of good habits and good heredity, began by having an epileptic convulsion in bed, October 21, 1888. He had been felled by blow of an axe upon his forehead twelve years before the first fit. He had also "lived with a headache in both temples" for some three years before the first fit. The convulsions recurred at intervals varying from ten to four months. Here again, as in the last case, attacks of petit mal came on, during which patient wandered off to considerable distances—the unconsciousness evidently lasting half an hour or more. The mental failure, although not so profound as in the first case



described, was cause of concern. An abundant bromide acne corroborated the patient's account of steady use of bromides, and the progressive frequency of the spells showed the inefficiency of the treatment.

The bromides were at once discontinued—patient put upon arsenic and fl. ext. cimicifuga, with considerable benefit, due, as I now believe, chiefly to cessation of bromides. In August, 1891, he was put upon phenacetine and salol, after which the improvement became well marked. I lost track of him until March 6, 1893, when he turned up again with this history. He had kept himself supplied with his capsules, and had gone some eighteen months without a severe convulsion, and with only a rare and very transient spell of petit mal, so that he became confident, stopped medication, and, a day or two before he came to see me, had a fit. He is now ready to go on with his phenacetine.

The case, while not as marked an illustration of the ill effect of bromides as No. 1, shows this: that fully as good results were obtained by antifebrin and phenacetine as the most ardent supporter of the bromide plan would claim.

In August, 1892, a young business man was referred to me by my friend Dr. Burr. He gave a history of having been obliged to abandon business, of having spent \$2400 in a long visit to California in search of health, and returned to Detroit, both himself and his friends utterly discouraged.

He had frequent epileptic attacks, as many as three a day, during which he became wholly unconscious. In falling, he fell forward, and the right side stiffened more than the left. The most serious phase of his trouble, however, was his mental state; he had become forgetful and mentally inert to a degree which quite precluded him from attending to his business; besides this he was becoming ugly, so that his wife needed to avoid crossing him in any way. Corresponding with this mental state, his facial expression was almost nil; ptosis well marked, face suffused. The man's whole appearance and demeanor, his mode of speech and gait, as well as the history given, joined to make a complete picture of a nervous system rapidly degenerating. The prognosis was given as very doubtful. A feature in the case, of which the patient himself made more complaint than anything anything else, was a troublesome dyspepsia. He brought a history, as usual, of bromides, and also of iodides. What is the result to-day? I received a check from him on May 5, 1893, and on the back of the bill this pleasant endorsement: "I'm too busy to come and see you, but am able to sign checks." In brief, the young man is hard at work in his

old business; has set up housekeeping; his facial expression is that of an active, interested man; he has had no convulsion since September, 1892.

Guided by previous experience, he was ordered at my first visit to discontinue his bromides; was put upon salol and phenacetine, which he has continued in lessened doses up to the present time, although now he takes a capsule only at irregular times. He judges by his own sensations—a headache, a fullness over the eyes, or a little increase of nervous irritability, he takes a few capsules.

I have given these cases, because long enough intervals have elapsed to demonstrate some permanency of action as regards the epilepsy, and also to demonstrate the absence of deleterious effect upon the mental state. I could add to the list many cases of short duration, which would not suffice to satisfy my hearers, on account of the comparatively short duration of the term of freedom from convulsion. At the same time, this experience has satisfied me that in properly selected cases, antifebrin or antipyrine, or phenacetine, are the most effective drugs.

One case will well illustrate the grounds of my belief. Mrs. K. T. was referred to me by Dr. J. H. Carstens. She had been sent to him in the hope that her epilepsy could be cured by removal of her ovaries. Dr. Carstens refused to operate because he could not satisfy himself that there was a connection between the state of the ovaries and the nervous disorder, clear enough to warrant the operation. The fits had been going on for fourteen years. When she came to me, she had attacks of petit mal from once to three times a day. This case was at once put upon antifebrin and phenacetine. Improvement was prompt, she remained in the city some six weeks, felt so much better and confident that she returned home and resumed her domestic activities. The last report I had from her was that she was well, except that about once a month she still has an instantaneous “flash of unconsciousness.” Surgery could hardly have done better; yet such cases as this have been the warrant for many an ovariectomy.

To sum up: I believe that the routine use of bromides does serious harm. That it is a serious mistake to go doggedly on with bromides, in any case in which the attacks of grand mal, but more especially petit mal, persist or increase in frequency while the patient is taking bromides.

I believe that bromides should be given in full doses to begin with; that, if they are to prove of benefit in a given case, the good effect will be promptly shown. The dose should then be diminished, and always carefully watched. Failure of mem-

ory, mental torpor, change of character, are worse things than an occasional explosion, and when the toxic effects of the drug first appear it ought to be stopped at once. I believe we have in antifebrin and its analogues a group of remedies which form efficient substitutes for the bromides. They can be given for long periods with marked benefit, and their use is without any deleterious effects upon the mental state. This alone gives them an immense advantage over the bromides. One precaution, however, must be observed; the drugs need not be given in large doses, but there are persons on whose circulatory apparatus even moderate doses exercise a depressing effect. Such cases are not fit for the antifebrin treatment.

That the antifebrin group has a profound power over the cerebro-spinal axis is demonstrated by the effect which we so well know upon reducing temperature. My experience with this class of remedies in diabetes has corroborated my reliance upon them, and certainly the experience upon which this paper is based, goes far to prove that prompt and thoroughly satisfactory effects in controlling the epileptic explosion can be expected.—*Therapeutic Gazette*.

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#### WHOOPIING-COUGH.

By A. JACOBI, M. D., Professor of Diseases of Children, College of Physicians and Surgeons, New York.

This girl, about six years of age, had, we are told, measles in July and a cough ever since she was a baby. The mother brings her here because of a cough, which she thinks is whooping-cough, and doubtless she has been told that it is. She has severe attacks of coughing at night, is a little better during the day.

The cough to which the mother refers must be the result of some actual change extending over a long time. Very likely there have been intermissions, more or less complete, until a new catarrhal attack would develop on a subacute or chronic form. We meet with a great many such cases, either in children who for some reason once had an acute bronchitis and never got well, or who had a tendency to rickets or so-called "scrofula" from infancy. Those children who have a tendency to glandular swellings, not only in the neck but also in the mediastinum, are very apt to have an irritation, a hyperæmia of the bronchial tube. This is very apt to pass into a subacute, and from a subacute back into an acute bronchitis, and occasionally into a broncho-pneumonia. Evidences of the latter are often found. Such babies are very apt to perish finally of an acute extensive

attack of broncho-pneumonia or to pass into tubercular consumption. The latter is particularly apt to occur where, as is true of many cases, there is a family history of glandular swellings and tuberculosis. Now, this child had measles in July, having already been a sufferer from bronchitis, and under those circumstances an attack of measles is very apt to lead to broncho-pneumonia. Doubtless it did so in this case and the child has not been well since. The mother thinks the child coughs differently from what it used to; that now it has whooping-cough. It is well to bear in mind that whooping-cough does frequently follow measles, for the reason, we may suppose, that the active agent of whooping-cough, probably a germ, takes hold more readily when there is morbid condition of the bronchial mucous membrane than when the respiratory tract is in a normal condition. In children who have been coughing for weeks from bronchitis, it is very difficult in the beginning to make a differential diagnosis from whooping-cough. You can reach a conclusion only when the peculiar crowing inspiration takes place from spasm of the glottis, especially at night-time. When there is a severe cough and no previous broncho-pneumonia or marked bronchitis to account for it, you may be justified in making an early diagnosis of whooping-cough, or before the whoop becomes so striking as to be absolutely diagnostic. To be able to do this safely, however, it is necessary to examine many so-called trifling cases, for the more important cases often present in the beginning only such symptoms as are found in the comparatively unimportant ones. It is the so-called trifling cases which often try the practitioner. Not to know whether a cough will prove to be a whooping-cough or only the cough of a light bronchitis may cost you a family and your good reputation, for any old woman can make the diagnosis of whooping-cough as well as you when the whoop has declared itself in a definite way. Now and then it is expected that the doctor know a little more than the old woman of the neighborhood. That means that he must study his trifling cases over and over again, and as he does so he will find them growing constantly more interesting. And they sharpen his wits.

The attacks of whooping-cough occur most frequently at night. Sometimes during a single night there are only two or three, sometimes twenty or thirty attacks. They are most apt to come at night, because, first, the children are then locked up in bad air, which irritates the bronchial mucous membrane; second, the patient lies usually on the back, and whatever there is in the nares or upper pharynx runs off into the larynx, or at least to the arytenoid cartilage, and sets up irritation; third,



whatever accumulates in the bronchi and larynx is expectorated as it is in the daytime and it leads to cough. The general cause of the disease, however, is probably a germ and acts by day as well as by night. Still the attacks in the day are not only less frequent but are less violent.

Whooping-cough is liable to last a number of months. During the attacks the child coughs violently, the face becomes flushed because of the interruption of the circulation, the diaphragm contracts on the heart and lungs and interferes with the circulation; the muscles of the neck constrict the jugular veins and the blood is retained in the face and brain. In a number of cases the restriction of the circulation in the small vessels causes hæmorrhages, especially on the conjunctiva, nose and lungs. Such children are sometimes seen going about with one or both eyes bloodshot. That may last a week or two weeks, and recurrence take place repeatedly. There may be hæmorrhage from the nose; there are hæmorrhages from the lungs. Such babies vomit a good deal; bringing up the contents both of the stomach and of the bronchial tubes. Now and then they have hæmorrhages into the meninges, but before this there is simple hyperæmia.

The hyperæmia or congestion may lead to convulsion. I have seen patients that would have a convulsion with every attack of cough. I have seen as many as twenty or twenty-five convulsions in a day, and have been compelled to give chloroform as soon as an attack would begin in order to prevent a convulsion. The hæmorrhage into the brain may lead not only to convulsion, but also to paralysis, local or hemiplegic. The cases of local paralysis due to whooping-cough are by no means infrequent, and therefore to let a whooping-cough alone because it is expected to run its course in three or four months, more or less, is a great mistake. It is not a question whether it is necessary to treat such cases; it is rather a question whether it should not be regarded as criminal not to treat them. It is not a question whether you shall give a placebo; you must give an active medicine.

Still, the treatment in most instances is very unsatisfactory, the best proof of the difficulty of controlling a whooping-cough is seen in the hundreds of quack and regular medicines recommended for it. The whole pharmacopœia has been pilfered for the purpose. A large number of remedies have been tried and given up. There are very few that stand the test of time and experience. For many years I have, after trying for a time some new remedy that might arise, always returned to my old love, which is belladonna. Belladonna is, in my opinion, still the best thing which we can give in the

treatment of whooping-cough. I give it in three daily doses, one in the morning, one at noon, one at night. Every dose must show an effect. The first sign of an incipient overdose in the adult is dilatation of the pupil. In a child it is a peculiar erythematous flush of the cheeks. A blush makes its appearances say fifteen or thirty minutes after the dose has been given. This effect should be visible at every dose, otherwise the belladonna will have no effect on the whooping-cough. This child might receive ten drops of the tincture three times a day, and if there be not the effect just mentioned, the dose may be increased a drop until the effect is observable. Anyway, after a few days it will fail to produce the flush, and I find that as a rule the dose has gradually to be increased until about in a fortnight it has been doubled. I again repeat that, unless you obtain the flushing of the cheek, the belladonna will have no effect on the whooping-cough, and you might just as well have not given treatment at all.

Sometimes the attacks of coughing are very severe, and may lead to convulsions, so that you are compelled to do something else, give some immediate relief. This is particularly true at night. Opium or chloral might be given. This child, which is six years of age, might receive six or eight grains of chloral hydrate at one dose. If the effect should wear off, another dose might be given in from three to six hours. Sometimes it is necessary to give a good dose of chloral at bedtime every night in order to secure sound sleep.

A number of medicines have been recommended in whooping-cough, as already stated. Bromides have been recommended, and of late bromoform in three or six drop doses two to four times a day. I can not say that my experience with it has been sufficient to confirm the urgent recommendations made in its favor.—*Archives Pediatrics.*

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### MIGRAINE.

By CHARLES H. BUSHONG, M. D., Attending Gynecologist, Demilt Dispensary, New York City.

The word migraine does not convey the same idea to the minds of all medical men. This is unfortunate, as it frequently is misleading. The title of a disease should leave no room for doubt as to the exact condition meant. In order to be succinct, it will be necessary to begin the consideration of this very common ailment with a definition.

By migraine, as used in this article, is meant a condition in which the chief symptom is pain of a neuralgic character in the head, accompanied by nausea and usually culminating in

vomiting. The term as here used is intended to designate what has frequently been called, especially by the laity, sick headache. The cause of this condition is, almost without exception, in the alimentary canal. Neuralgic pains in the head due to eye strain may be followed by nausea, and may even cause vomiting. Where doubts exist an examination of the eyes may be made and any defect corrected. This condition is not migraine, and only calls for mention here to prevent errors in the diagnosis.

The pain in migraine is usually in the form of a hemicrania, generally more intense in the frontal region. At times the entire frontal and both temporal regions are involved, but this is not the usual condition. The patient will have the pain on one side during one attack and at some other time the other half of the head may be involved.

The cause of the pain is due to the condition of the blood vessels. These are usually in a condition of tense contraction. The amount of blood in them is reduced to the smallest amount possible. This is evidenced by the excessive paleness of the skin over the area of the pain. This spasm of the muscular coats of the blood vessels is due to an impulse or impression carried from the stomach or duodenum (the usual seat of trouble) through the vagi to the centres and reflected through the sympathetic to the nerves of those vessels. The eyes and the blood vessels in the immediate neighborhood are very intimately associated with the stomach and adjacent parts of the alimentary canal through this medium of reflexes.

The apparent want of relation between cause and effect has led to many errors in the diagnosis. The paroxysmal character of the disease has added to this tendency to error because the patient is left apparently perfectly well during the interval between the attacks of pain. Patient and physician have both been led to look upon the attacks of pain, etc., as due to various causes just preceding their occurrence and not liable to recur. Errors in diet are usually the cause given, and patients will frequently attribute the sickness to some particular article of food. This will be eliminated from his dietary, and subsequent attacks will result in the elimination of other articles of food until he is reduced to a regimen insufficient for the support of a healthy body. Yet he continues to suffer, the paroxysms often becoming more and more frequent as his alimentation becomes more and more inadequate for the requirements of his organism.

His condition is now favorable for the development of other forms of disease. If he does not acquire some acute disease whose onslaught he is in no condition to resist, his

chances for the growth of some form of chronic disease are excellent. Tubercular disease, cancer or the various forms of kidney or liver involvement are particularly prone to manifest themselves as a sequence of this condition. It is not infrequently stated that the earlier symptoms were indicative of an early stage of the latter disease while the migraine is entirely overlooked.

The particular condition of the stomach, duodenum, or liver which produces the migraine has not been definitely decided. This is because the condition is not of itself fatal, though death from exhaustion has occurred. The opportunities for post-mortem investigation have been small, and practically nothing has been done in that direction.

Knowledge of the lesions existing is therefore entirely clinical. The symptoms and physical examinations that have been described by different observers are frequently conflicting. Careful investigation is required to eliminate those cases which are clearly due to some other cause and have been described as migraine because of a misuse of that term. The clearly defined cases which remain give a definite clinical picture.

The physical examination does not reveal any permanent abnormality. It has been claimed by Dr. A. Symons Eccles\* that all the cases coming under his observation had dilatation of the stomach. His observations are based on more than thirty cases which were subjected to hospital treatment. In all of them he found "stomach splash" and "gastro-intestinal inertia." In one case this "splashing" was heard at a point the width of two fingers below the umbilicus.

In one of my cases this enlargement of the stomach was evidenced by the large quantities of warm water the patient often drank in order to cause the stomach to expel its offending contents. When two or three quarts of water had been taken he could plainly hear and feel the movements of this water in the stomach, and it could be heard by others standing near him. These movements were produced by shaking the abdomen from side to side. When filled the area of the stomach as percussed out was very large. The quantity of water not absorbed or allowed to pass on into the intestines was shown by the amount subsequently ejected when vomiting had been produced.

The liver may be larger or slightly smaller than normal. When enlarged it is usually tender on pressure. The evidence is so conflicting that it is probable that only functional impairment is characteristic of migraine, the variations in size being accidental and not casual.

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\* See *London Practitioner*, September, 1892.



Constipation is almost a constant symptom of migraine as a result of the impaired digestion and the failure of the liver to produce or discharge enough bile. The stools are light in color in consequence of this deficiency.

In describing the symptoms of migraine it is best to divide them into two classes: Those present during the paroxysms of pain, and those between these attacks. The symptoms of the paroxysmal stage are so pronounced as to be unmistakable. They are generally preceded by a period of variable length, during which the patient knows that an attack is pending. This is evidenced by a general feeling of inertness. The eyes are dull and heavy and often painful when used. They feel worse when exposed to a bright light. Persistent yawning without desire to sleep is a usual symptom during this stage, and may be very annoying. Many patients complain of a condition which is very difficult to express in words, but it is very uncomfortable. They describe it with such words as muddy, smoky, cloudy, etc. This feeling is chiefly in the head in the region of the frontal sinus. When this symptom is present the mind seems clouded by the influence, which they usually feel to be from the stomach. Associated with the above condition is generally found a disagreeable taste in the mouth, with dry, coated tongue. There is also a disinclination to take water, even though considerable thirst be present. Water tastes very unpleasant to these people at this time. The appetite is often abnormally increased and a desire for sour things, pickles, and other substances difficult of digestion is common. If this craving is yielded to the subsequent condition is much aggravated by the excess both in quality and quantity of food taken. Many patients learn that it is best to abstain entirely from taking food at this time. The symptoms which experience teaches them will soon follow are much milder when they do not eat at all.

Constipation is the rule during this anti-paroxysmal period, though it may be that a free evacuation of the bowels was had that day. When this is true the condition is made manifest by a failure to have a discharge the next day. Recognizing this fact many patients resort to cathartics as soon as they begin to feel these premonitory symptoms. In consequence of this fact, too, we find on the market numerous "liver pills" warranted to cure sick headache. In some cases a temporary relief is obtained in this way, but recurrence of the attacks is not prevented by such means.

This stage lasts for a period varying from an hour or two to a day or more. Usually the time is not greater than two or three hours. During this interval the patient has no desire to

exert himself. His energies, if put forth at all, are usually devoted to getting home or to some quiet place where he can remain during the period of suffering experience has taught him will soon follow. Little if any urine is voided during this time. The hands and feet are cold and dry and the forehead cold and wet, with the skin tensely drawn against the bone. The temperature may be subnormal.

As the symptoms become more intense the patient becomes restless. He frequently paces up and down his room with quick, impatient yet careful step. The least jar from an uneven step hurts him, and noises drive him frantic. Light is painful to his eyes. The eyeballs feel hot and as if ready to burst, and their least motion causes pain. The paroxysm has now fully developed. All his thoughts are focused on his aching head. The pain seems unendurable. If not too exhausted, he redoubles his pace and walks faster and faster back and forth. If so overcome by weakness that he can walk no more, yet he can not remain quiet, but tosses about on his couch from side to side, now burying his head in the pillows as if to smother the pain, again starting up and resuming his impatient march until again exhausted.

But why enlarge upon the picture? Suffice it to say that the pain is intense, of a neuralgic character, and usually confined to the one side of the anterior part of the head. That part of the face around the eye and bridge of the nose may be involved, and in some cases the entire forehead and both eyes are included in the pain involved area.

After a variable period of pain the nausea begins to be a prominent symptom. This usually becomes more and more pronounced, and may be accompanied by infrequent ineffectual efforts to vomit. These each cause the pains in the head to hurt more severely, and may cause the patient to cry out from their intensity. After a period of an hour or more these efforts prove successful, and the contractions of the diaphragm become forcible enough to expel the contents of the stomach. The food last taken is usually ejected in a condition but slightly changed from that in which it was swallowed. A certain amount of fermentation has usually set in, but no true digestive process has been at work. This mass gives off an offensive sour odor, and is of acid reaction.

The vomiting continues with more or less persistency until the stomach is entirely emptied. This is shown by the raising of some of the dark green fluid, which is intensely bitter to the taste and gives the reactions of bile. When this has been ejected the patient sinks back on his couch, weak and weary, but free from pain. The hemicrania has disappeared. The

forehead is bathed in perspiration and its color gradually returns as the spasms of the muscular coats of the arteries disappear. An abundance of almost colorless urine is voided, either just before the vomiting begins or shortly after it. The latter time is more common.

After the stomach has been emptied the patient usually sleeps for a few hours. He awakens from this sleep rested and apparently as well as ever, the only evidence of his attack being the weakness resulting from the muscular efforts and the loss of so much nourishment.

It is evident that this loss of food is considerable. One meal is always ejected entirely unassimilated, and frequently food is found among the vomited matter that had been eaten two meals before. Then nothing can be taken during the period of acute suffering. This frequently means the loss of all food for a day or more. It is important to remember this fact in treating these cases. When the attacks occur, as they do in bad cases, as often as one or more in a week, the impaired nourishment becomes a serious matter.

Another important consideration is the amount of time these people lose from their life duties. They recover so soon and appear so entirely restored that many who have not seen them while suffering, are inclined to think the sickness of slight importance. Then, when the sufferer is a person on whom important responsibilities rest, the enforced absence from his post of duty causes him to attempt to get his work up by more rapid labor when able, or it may be by longer hours on duty to made up for the time lost. All these circumstances only aggravate the condition, causing the attacks and increases their frequency.

The interparoxysmal symptoms are not so characteristic, and they may be entirely absent. Usually a certain amount of digestive disturbance is found. Bad breath, coated tongue, and bad taste in the mouth, with occasional sour water coming up from the stomach are common. With these conditions are a full, bloated feeling of the abdomen, which is worse after eating, and the presence of much gas in the intestines. This shows that fermentation is too active, and that the digestive process is faulty. The bad odor and light color of the dejecta are additional evidence of the same thing. Constipation, with hard, dry movements from the bowels, is another result of the same cause.

If the patients have suffered for a long time, and the attacks have become frequent, they are generally poorly nourished. The skin is sallow and wrinkled, and a general expression of weariness is present on the features when at rest.

The hair, especially just behind the temples, becomes prematurely gray, and the eyes have an expression of suffering around them. These advanced cases have an appearance not unlike that of a patient with the cancerous cachexia, and mistakes in diagnosis are frequent. Unless great care is taken it is very easy to mistake an aggravated case of migraine for cancer in the abdomen, cancer of the stomach being the most frequent condition thought of in this connection.

In the treatment of migraine, two prerequisites are essential to success; one rests with the physician, and both rest with the patient. The attending medical man must realize that the paroxysms of pain, vomiting, etc., are not the disease, but only a periodic explosion occurring in its course, consequently the treatment of them is of little consequence in its effects on the radical cure. The patient must realize this fact also, and it is a difficult task to have him do so. The second thing the patient must do is to learn that he can be cured. These sufferers have usually come to the conclusion that their only relief is to take some narcotic for the pain, or in some way to abort each attack or at least make it less severe. They say they will "outgrow" it by and by, but that no relief can come until that time. This belief on the patient's part is frequently strengthened by the presence of the disease in one of his parents or grandparents. This ancestor tells him he had these "spells" until he reached a certain age and then they ceased to trouble him.

The tendency to have faulty digestion is undoubtedly found in members of succeeding generations of the same family. Faulty liver function can be transmitted from father to son, but it has seemed more probable that the chief factor is that improper food and the manner of taking it is acquired from eating at the same table and partaking of the same dishes prepared in the same way.

When patient and physician are convinced that the most important part of the treatment has no direct relation to the attacks, and the patient is sufficiently convinced of his ability to find relief, the treatment can be carried on with prospect of success, but not otherwise. Frequently the drugs given to control the pains and nausea are the very worst ones for the condition causing those attacks.

The first item is a thorough examination of the patient, which should include a searching inspection of all his habits, manner of eating, character of the food taken, and amount and time of eating. The amount of exercise must be known and the hours devoted to work. If he is overworked it must be known. In fact, everything that can possibly influence his



health must be learned, and any faults in his habits corrected. His food must be of a character easy of digestion and assimilation. It must be taken at proper intervals and in suitable quantity. All excess in eating or drinking must be avoided.

If the case is serious, a few weeks on a diet entirely fluid will be needed as a beginning of the treatment.

Milk is the best form of food for these people. But here we meet an obstacle. They can not take milk, it makes them "bilious." It is the physician's duty to fix it so they can take it. The stomach is usually hyperacid, and the milk is coagulated in a thick mass the moment it reaches that viscus. Its prompt rejection is the best thing that can happen after this occurs. Coagulation can easily be prevented. The best remedy we have is probably the Vichy water which is put up in siphons and made to effervesce by being charged with carbonic acid gas. This can be used as a drink, taken just before the milk, or it can be combined with the milk in the glass before drinking. In either case the quantity of the alkali must be sufficient to prevent coagulation. It may be necessary to use a mixture of half vichy and half milk, or even more of the vichy may be required.

The constipating tendency of the milk is lessened by the above combination. If not completely controlled by it, an alkaline cathartic should be used at the same time. A bottle of citrate of magnesia is probably the best preparation for this purpose. A daily evacuation of the bowels must be secured from the very beginning of the treatment, and drugs to secure it given until the habit is so completely acquired as to require no assistance to secure it. Certain articles of food will assist materially in securing this important result. These can be gradually introduced as the fluid diet is being changed to solids. The milk diet can be kept up for from two to four weeks, when the dietary must be amplified—the more easily assimilated foods being added first. In using all these forms of food it is best to give small quantities at frequent intervals, the intervals not being more than two or three hours. The amount taken in each day should be recorded, and sufficient quantity used to fully nourish him. If he gain weight it is all the better if the stomach will bear the amount required. He should at least not lose any weight.

The foods to prevent or rather cure the constipation habit can be added at any time. The most efficient of these will be the various fruits, any of which can be tried. They will act best if taken in the morning. Sometimes they are taken to advantage before rising or before breakfast. They do not act so well when taken with other food, and, as a rule, they do badly when taken after three or four in the afternoon.

As soon as the stomach will bear it, tonics must be given, and their use persisted in for months, or even a year if needed. Among the best tonics is arsenic, and probably the best form is the liquor potassii arsenitas. (Fowler.) This should be given in beginning doses of from three to five drops, and increased a drop as it can be borne until ten, fifteen, or even twenty drops are taken three times each day. It should be well diluted in water when taken. Its use can be continued for months without danger. The constipation frequently ceases to be a factor in the case during the taking of arsenic, its action upon the liver seeming to be all that is required to cause that organ to perform its function properly.

Preparations containing iron, quinine, strychnine and phosphorus in its various forms will be of benefit. They can be combined in some easily assimilated form with stomach tonics like gentian. The syrup. hypophosphit. comp. of the U. S. P. is excellent in many cases. Some of the proprietary formulas will occasionally be found to agree better. Only those whose contents are known can safely be recommended.

If the patient is depleted cod liver oil, raw eggs beaten up with milk, cream and rare beef must be taken in abundance. To restore the alimentary canal to a normal condition some mild bitter is usually needed. It is usually necessary to give alkaline mixtures, as hyperacidity is the rule. The *Mistura rhei et sodæ* of the pharmacopœia is often sufficient with the Vichy for this purpose. The alkaline mineral waters should be taken in abundance.

The habits of the patients must also be guarded. He must not overwork himself, and especially should avoid sedentary pursuits. An abundance of oxygen is needed. Exercise in the open air in amount not sufficient to tire him must be taken each day. A change of scene is often beneficial, especially if it include a change from labor to rest, or from a cold to a warm, dry climate.

And last, but by no means least, the various forms of alcohol must be interdicted. These patients, if they are men, frequently resort to some alcoholic to alleviate the pain of the attacks. This custom only aggravates the trouble by adding to the trouble already existing in the alimentary canal. The same may be said of opiates, only that the danger from habit is much greater. The use of no form of opium is safe if left in the hands of the patient. He is certain to become an habitual user of it sooner or later.

Washing out of the stomach has given good results in obstinate cases and should be tried. Where the stomach is dilated this lavage is beneficial. It should be associated with massage

of the abdomen. Care must be taken not to fill too full a stomach that is already dilated. The enlargement may be increased in this manner.

In regard to the treatment of the attacks little need be said. If the treatment during the intervals is thorough they will cease to occur. When it becomes necessary to relieve the pain a number of drugs have been found which will control it. The best of these are those that act by relieving the spasm of the arteries. Acetanilid in five-grain doses has been most efficient in my experience. The occasional failure of drugs to act is due to the condition of the stomach. It is in a perfectly inert condition and the remedy lies in it, but gets no further. To avoid this sequence it has been my custom to give some digestive ferment with an alkali at the same time. Extract of the pancreas with bicarbonate of soda is usually sufficient for this purpose. The only precaution is to give enough. Five grains of extract of the pancreas with twenty grains of soda are sufficient to cause digestion to begin. When this is used it frequently saves the patient from the necessity of vomiting, the offending mass being digested and carried on into the intestines. Under no circumstances should the digestive ferments be used between the attacks.

Other remedies recommended to control the pain are the various forms of bromide cannabis Indica, antipyrine, and many others. Opium will control the pain, but its use is fraught with danger.—*Epitome of Medicine.*

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## OBSTETRICS.

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### IPECAC AS AN OXYTOXIC AND PARTURIFACIENT.

JNO. J. THOMAS, M. D., Youngstown, Ohio.

Two or three years ago my attention was called to an article by Dr. Draper, a British physician, upon the use of ipecac in the first stage of labor. It was claimed that the use of this drug in small and frequent doses not only brought about relaxation and dilatation of the os, but that it actually induced vigorous contractions of the uterus; intermittent in character, differing widely from the ergotic contraction, and very closely simulating the unaided expulsive effort of nature. Determined to put the matter to a thorough and sufficient test, I at once placed in my obstetric bag a bottle of the wine of ipecac—the preparation used by Draper—and now, having closely observed the action of the drug in some scores of cases,

feel that the conclusions arrived at should be brought to the attention of the readers of the *Reporter*.

My conclusions are these: That ipecac induces a rapid dilatation of the os uteri; that it promotes contraction of the uterus, and that its action is fairly certain and positive in the majority of cases. The administration of ipecac is about as certain to be followed by increased vigor of contraction of the womb as is the administration of ergot. Both drugs sometimes fail, and a cause of failure which I have frequently noted is a loaded stomach; an arrest of the process of digestion and absorption; a frequent condition during labor. In my experience ipecac does not possess the power of initiating uterine contraction; but given a case where labor has evidently begun, and where dilatation of the os has made some progress, the pains perhaps feeble and infrequent, the use of fifteen-drop doses of wine of ipecac every fifteen minutes will usually quite speedily bring about more rapid dilatation and greatly increased force of the pains; in other words a decided shortening of the first stage. In some subjects three or four such doses will induce vomiting, when it is wise to suspend the use of the drug for a time. In many cases I have found the effect of but two doses to be so striking as to excite the remonstrance of the patient, and a refusal to take more of what led to a marked increase of her pain.

It is easy to explain how ipecac from its nauseating properties might induce softening and relaxation, thus favoring dilatation of the os, but its oxytotoxic properties appear to have been overlooked by therapeutists generally. Trousseau urges its employment in post-partum hæmorrhage, and Bartholow endorses the practice, but neither claim that it acts by virtue of causing uterine contraction. In retention of the lochia where the uterus was greatly relaxed, I have found ipecac to cause prompt contraction and the expulsion of contents. I have found the remedy to be helpful in retained placenta occurring in miscarriage in the fifth month. Its employment was promptly followed by contractions sufficiently strong to bring about expulsions of the secundines.

Comment upon the frequent usefulness of an agent possessing the properties claimed for ipecac is unnecessary. Every practitioner of obstetrics has very frequently felt the need of a harmless oxytotoxic, one that can be used during any stage of labor without injury to mother or child. We have this in ipecac. Ergot, of course, has an established value as a powerful excitant of uterine contraction, but its use has narrow limitations even in the second stage of labor; while in the first it is not to be thought of. And yet, I once knew a legally



qualified practitioner of medicine to administer an ounce and a half of fluid extract of ergot within twelve hours, to a woman he imagined to be in labor—the os open to about the size of a five-cent piece. The woman lived through it, but the child, I believe, did not. The legally qualified practitioner is still at large—and—but as Kipling would say, “That is another story.” Pardon the digression.

Ipecac is more than a nauseant or emetic. It is an oxytoxic; and a fair trial of its properties in this direction will, I am convinced, lead the practitioner making it to the formation of an estimate of its value no less high than my own.—*Medical and Surgical Reporter*.

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## Book Reviews and Notices.

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*International Clinics*: A quarterly of clinical lectures on medicine, neurology, pediatrics, surgery, genito-urinary surgery, gynecology, ophthalmology, laryngology, otology, and dermatology, by professors and lecturers in the leading medical colleges of the United States, Great Britain and Canada. Vol. I, Third Series, 1893. Philadelphia: J. B. Lippincott Co.

The present volume of the *International Clinics* contains clinical lectures by fifty home and foreign writers, each one of whom is prominent and an authority in the branch he represents. The lectures touch upon nearly all of the departments of medicine, and give, in a concise form, a good picture of modern scientific thought, and in a style that is always the most acceptable to the busy physician who desires to keep himself in line with the times. The lectures possess different degrees of merit and fullness; but this must be looked for in a composite work that is more like a mosaic than an oil painting. A specialist would be apt to find fault with what he might be pleased to term the elementary character of one or two lectures in his line; but what is elementary to him is not so to the general practiser for whose benefit the *International Clinics* are published. While, therefore, certain lectures are more exhaustive than others, it is to be borne in mind that all possess a high degree of merit.

Among so many valuable contributions, a reviewer could well find something worthy of special note. A lecture on Bright's Disease, by Dr. Wm. H. Porter, of New York, is one

that will surely be carefully studied by men who have to deal with this multiform affection. Dr. Porter groups thirteen pathological states under the general name of Bright's Diseases. The present lecture, which is the first of a series, deals chiefly with the acute forms of renal trouble. In the course of his lecture he takes issue with our standard text books on certain points. He denies the existence of glucose in the blood, and claims that it is formed as a transition product in the renal epithelium. In a case of his own, in which 11,000 grains of glucose were passed daily, some blood was drawn and subjected to the crucial test: fermentation. That test gave no evidence of the presence of sugar. It would be interesting to know, however, if the blood, which destroys many micro-organisms, is capable of inhibiting the development of the saccharomyces.

Dr. Porter's views on the pathology of renal lesions differ somewhat from those commonly held, and his therapeutic deductions are valuable from the clearness of their indications.

If the remaining lectures of Dr. Porter prove as interesting as the initial one, we feel that he will furnish the general physicians with a valuable aid in the treatment of the disease of modern life.

The publishers of the *International Clinics* have availed themselves of the best clinical talent of this and other countries in producing a quarterly bound volume on medical topics that are of contemporaneous interest.

A. McS.

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## Deaths.

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### DR. CHARLES L. SEEMANN.

Dr. Charles Landolin Seemann, coroner for the parish of Orleans, died on August 15, 1893, at 7:30 P. M., at his residence, No. 521 Royal street, between Enghien and Port streets.

His demise, although not unexpected, was rather sudden. At the very time that he was informing his family that he was feeling better, a terrible crisis was at hand. The seal of death soon became apparent, and in the presence of his grieving wife and children he fell into a lethal faint and expired.

He was barely over 30 years of age, but in the short career allotted to him there were many good deeds to his credit, many commendable and deserving acts due to his energy and activity in private, social and public life.

Charles L. Seemann was the son of Prof. Charles F. See-

mann, Ph. D., an esteemed resident of the Third district. He was born in this city, in June, 1863. After having received a primary education in St. Aloysius College, in New Orleans, he entered the Boys' High School and graduated with high honors, in December, 1878. He was the salutatorian of the class. Young Seemann next devoted his time to the study of pharmacy and graduated in that profession in 1881, at the age of 18. He then studied medicine and was appointed a resident student in the Charity Hospital. During his occupancy of that position the ambulance system was established, and he was among the first who formed part of the ambulance corps.

In 1886 Dr. Seemann obtained his diploma in Tulane University, and had the honor of being chosen valedictorian, after a spirited contest among the brightest pupils of the class for that coveted distinction.

Soon after having actively engaged in the practice of his profession Dr. Seemann became deservedly popular and obtained a large clientele owing to his uniformly courteous and affable disposition and his skill in his chosen profession.

Dr. Seemann married, on February 9, 1887, Miss Johanna Sweeney. Two children—girls—blessed their union and diffused the sunshine of happiness in their home.

Dr. Seemann had been ailing for several months. About four months ago he went to Hot Springs, Ark., to try the virtues of the medicinal waters of that famous resort. No perceptible benefit resulted, and he returned home last month. He next tried a change of air to the salubrious atmosphere of Mississippi City. There was, however, no amelioration to his health. He then came back to New Orleans, and since his return was most devotedly cared for by his wife and relatives.

Yesterday he seemed in better condition, when, unexpectedly, he swooned away and died. His family were utterly prostrated by the swift and sorrowful manner of his death, for they were yet hopeful that while life was on there might be a possible chance of recovery.

Dr. Seemann was elected coroner of the parish of Orleans at the last election, in 1892. He performed his duties ably, faithfully and conscientiously until his impaired health compelled him, some five months ago, to ask for a leave of absence. Dr. Seemann was very popular in this community. He was a devout Roman Catholic, and occupied positions of high honor in various associations affiliated with that church.

He was an officer in the Supreme Council of the Catholic Knights of America, and president of St. Sebastian Branch No. 311, C. K. of A. He belonged to Orleans Council No. 360, C. B. L., and was a member of the Jackson Benevolent Association.—*Picayune*.

## JOHN WILLIAM BRANHAM.

TREASURY DEPARTMENT, U. S. MARINE HOSPITAL SERVICE, }  
Office of the Supervising Surgeon General, }  
August 23, 1893. }

*To the Medical Officers and Acting Assistant Surgeons of  
the United States Marine Hospital Service:*

It becomes my painful duty to announce the death from yellow fever of Assistant Surgeon John W. Branham, at Brunswick, Georgia. He was taken ill about August 10, while in the performance of quarantine duty at Brunswick, and died on the afternoon of the 20th.

Assistant Surgeon Branham was born in Walker county, Georgia, October 27, 1868, and his early education was derived from the schools of his native State. When he was thirteen years of age he moved to Baltimore, Md., and received a general education at the Baltimore City College. He then studied medicine at the College of Physicians and Surgeons, Baltimore, and graduated at the head of his class from that institution March 13, 1889. During this time his elder brother, Dr. J. H. Branham, of Baltimore, was his preceptor. After graduation he first served as resident physician at the City Hospital in Baltimore during part of 1889 and 1890, and afterward was assistant quarantine physician for the port of Baltimore from May until November, 1891. Leaving Baltimore he moved to Kempsville, Va., where he practised medicine until entering the medical corps of the Marine Hospital Service. At the examination of candidates held in Washington, D. C., in March, 1893, Dr. Branham passed first among twenty-two applicants, and was commissioned assistant surgeon April 19, 1893, and on April 21 was ordered to the Marine Hospital, Stapleton, Staten Island. On the 25th of July Assistant Surgeon Branham was ordered to Brunswick, Ga., to take charge of the quarantine at that port, where he remained in the active discharge of that duty until he was stricken down with yellow fever.

As an officer Assistant Surgeon Branham was held in high esteem both by those under whom he served and by the department. His ability was fully recognized, and he was chosen for the important duty of reorganizing the quarantine of Brunswick and establishing it upon a firm sanitary basis, the local quarantine at that point having proved to be insufficient. Through his death the service has lost an able officer.

Personally Assistant Surgeon Branham was a man whose general education and medical attainments won for him the highest respect, and his social relations with his brother offi-



cers and others were characterized by a manliness of deportment and gentlemanly bearing that won the affection of all.

I have extended to his family the sympathies of the corps.

WALTER WYMAN,

*Supervising Surgeon General M. H. S.*

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## Medical Items.

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### THE POSTPONEMENT OF THE INTERNATIONAL MEDICAL CONGRESS.

The *Lancet's* Rome correspondent, under date of August 3, says: "This announcement (of the postponement) has fallen on the Italian public, professional and non-professional, like a bombshell, because when (as duly reported in the columns of the *Lancet*) a 'pilot-balloon' was started to similar effect last spring it was, after going the round of the European press, contradicted on authority by the Secretary General, Dr. E. Maragliano. 'Certain political journals' were, in that official contradiction, credited with having launched the 'ballon d'essai' in question, and once more the world relapsed into the belief that, in Dr. Maragliano's words, 'the date of inauguration was definitely fixed for September 24.' Even this morning (the 3d inst.) the leading journal of Rome, the *Opinione Liberale*, was still without official intimation of the 'ordine del gioron' given above and declined to believe an early anticipation of it published in a contemporary. 'On inquiry,' said the *Opinione Liberale*, 'at the Direzione di sanità we were assured that "finora" (that is, up to the eve of the 3d inst.) no decision had been taken, but that certainly, if "le malattie infettive" (infectious diseases) were to continue in Russia, in France and in other countries, the International Medical Congress would be postponed.' In its issue of to-day the *Opinione Liberale* informed its readers that, 'nevertheless'—that is, even if the congress were postponed—the *Exposizione* would still be held, and then it proceeded to give a glowing account of the labors *ad hoc* of the superintendent, Professor Pagliani and of his coadjutors, Professor Bentivegna, Dr. Sambon and the engineer, Signor Borlenda; but later, in its 'ultime notizia,' the *Opinione Liberale* had to admit the truth of what its contemporary had foreshadowed and to announce the postponement till April next of congress and exposition alike.

As I have indicated, the change in the time of meeting of such an ecumenical gathering has had a startling effect and has already disturbed the arrangements of a number of allied congresses which had fixed their dates with reference to this supreme one. The International Congress of Otology, for example, the fifth of the series, which was to have attracted the medical world on its way to Rome in September next and to have been held in Florence just before its great sister met in the capital, has also had to postpone its meeting. As to the disturbance of the long-adjusted arrangements of representatives from the New World and the Antipodes, I can but hope that the telegraphic agencies will have forewarned them in time of the futility of starting for Rome this year. The inference, however, seems inevitable that it was only in the most imperious necessity—in which it found itself, as stated, in agreement with the other European committees—that the Comitato Executive could have ventured at the eleventh hour to countermand an undertaking for which such elaborate preparations were in progress and in which so many distinguished consultants and teachers, whose time is so precious, had pledged themselves to take part.”

The *British Medical Journal* proposes our approaching Pan-American Medical Congress as a substitute for the one that has been postponed. It says editorially:

“The postponement of the International Medical Congress at Rome will come as a great disappointment to a great number of British members of the medical profession, who proposed to combine the scientific interest of a congress with the amenities of a holiday in Rome, and the holiday arrangements of many medical men are thus left open for rearrangement. It will probably have suggested itself to many that this will afford an opportunity for substituting a similar holiday of mixed scientific interest and recreation by taking the opportunity thus afforded for visiting the Chicago World’s Fair, and on combining with that unique experience a visit to the Pan-American Medical Congress at Washington, which will be held on September 5. All British medical men will receive a warm welcome at this International Congress of Medicine, toward the funds of which for purposes of hospitality and organization the American government have largely contributed. The secretary of the Pan-American Congress is Dr. Read, Cincinnati, Ohio, who will be happy to afford every information and facility to European visitors. The Cunard steamer *Campania*, the fastest boat on the ocean, which starts from Liverpool on August 19, will probably land her passengers in New York on the night of the 25th, and the *Umbria*, which

sails on Saturday, the 26th, will probably land them on the morning of September 2. Passengers sailing by either ship would arrive in good time for the congress. The visit to the World's Fair at Chicago may be made either before or after the congress, according as may be most convenient. If a considerable number of medical men desire to combine for the journey it is probable that some special arrangements might be made for their convenience by the Cunard Steamship Company."—*N. Y. Medical Journal*.

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#### BIRTH IN THE COFFIN.

The *Medical Press* quotes the following singular case from a German exchange: "The patient, aged 35, was attended in labor by a midwife on the 19th of June. The same evening, at 7 P. M., the woman died undelivered. The funeral took place three days later. On the 5th of the following July the body was disinterred on account of an accusation of malpractice made against the midwife. On opening the coffin there was found, 'between the thighs of the corpse, the body of a male child.' There was also 'total eversion of the uterus, together with the vagina.' It is supposed that the decomposing gases in the abdomen of the corpse were sufficient to cause the expulsion of a normally presenting foetus."—*Med. Record*.

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NEW ORLEANS, June 20, 1893.

*Editor N. O. Medical and Surgical Journal:*

DEAR SIR—Desiring to present an article on the subject of "Complications of Tonsillotomy" at the next annual meeting of the Louisiana State Medical Society, I would request your readers to favor me with answers to the following questions:

1. Number of cases of Hypertrophy of faucial tonsils operated upon.
2. Complications occurring during these operations, stating nature of complications and number of cases affected.
3. Method of operating in these cases in which these complications develop.

In publishing these cases I shall omit the name of the physician who reported them if desired.

I shall mail a reprint of the article, which I shall present at the meeting, to those physicians who send me a report of their cases, as above. Letters should be addressed W. Scheppegrell, M. D., care of Eye, Nose and Throat Hospital, New Orleans, La.

Very respectfully,

W. SCHEPPEGRELL, M. D.

## MORTUARY REPORT OF NEW ORLEANS.

FOR JULY, 1893.

CAUSE.	White .....	Colored...	Male.....	Female...	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	6	3	5	4	6	3	9
“ Intermittent .....							
“ Remittent .....	12	2	9	5	9	5	14
“ Congestive.....	10		5	5	7	3	10
“ Typho .....		5	2	3	2	3	5
“ Typhoid or Enteric.....	4		2	2	4		4
“ Puerperal .....		2		2	2		2
Leprosy.....	1		1		1		1
Scarlatina .....							
Measles .....							
Diphtheria .....	6	1	2	5	1	6	7
Whooping Cough .....	2		1	1		2	2
Meningitis .....	15	2	12	5	3	14	17
Pneumonia.....	10	4	7	7	6	8	14
Bronchitis .....	7	2	5	4	3	6	9
Consumption .....	45	31	48	28	75	1	76
Cancer .....	9	3	5	7	12		12
Congestion of Brain.....	11	1	7	5	5	7	12
Bright's Disease (Nephritis) ....	10	8	14	4	18		18
Diarrhœa (Enteritis) .....	16	12	15	13	9	19	28
Cholera Infantum .....	13	4	6	11		17	17
Dysentery.....	5	6	6	5	9	2	11
Debility, General .....	3	1	3	1	4		4
“ Senile .....	13	9	9	13	22		22
“ Infantile.....	2	5	4	3		7	7
All other causes .....	170	82	144	108	139	113	252
TOTAL .....	370	183	312	241	337	216	553

Still-born Children—White, 25; colored, 21; total, 46.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 24.06; colored, 31.59; total, 26.12.

F. W. PARHAM, M. D.,

Chief Sanitary Inspector



# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a written order for the same accompany the paper.]

### SILVER CITY, NEW MEXICO, AS A RESORT FOR PERSONS WITH WEAK LUNGS.

BY HENRY WILLIAM BLANC, M. D.

Statistical evidence goes to show very conclusively that the climatic conditions most inimical to the development and increase of chronic pulmonary disease are, on the one hand, a life on the ocean away from the land, and on the other, residence at a certain altitude, say from 3000 to 9000 feet, where the sunlight is abundant throughout the year and the air comparatively free from aqueous vapor.

As a natural consequence the medical profession has not been slow in testing and profiting by the therapeutic effects of those conditions that present such favorable prophylactic results, and it may be said with little fear of contradiction that to-day the climatic treatment of chronic pulmonary disease is the one most relied upon to bring about early and permanent results.

Cod liver oil, iron, the hypophosphites, out-door exercise, and the many other tonic measures so often resorted to for the purpose of removing debility, are coming to be regarded as bridges from emergency to emergency, rather than obstructions stemming the implacable tide of disease. Cures produced by these agents have been observed, but they are as uncertain as

they are uncommon, and only serve as further argument why those who desire more than temporary alleviation should *seek to attain this consummation by immediate and permanent change of residence.*

When we come to the question of the plodding medical practitioner thus surrendering a remunerative case for the sake of principle and the benefit of the said case, and the still more important one of the patient leaving a comfortable home, perhaps changing the character of his business occupation, to go to another country with strange people and surroundings, it must be remembered that it is a chance for life, aye, renewed health and vigor through an indefinite period of years. And this chance for the patient is to be balanced against prolonged invalidism with death its happiest outcome.

It is not intended here to dwell upon the remarkable immunity from pulmonary diseases enjoyed by sailors and other seafaring people, as is evidenced, for example, by the very low death-rate from these affections in the American and British navies, an immunity due in a large degree to the saltiness and freedom from contamination of the respired sea air, together with the constant exposure to sunlight. But as a life on the ocean, except for single voyages, is not practicable to the majority of invalids this mode of treatment becomes applicable only to a minimum of cases.

Many places throughout the United States have been extolled as health resorts for persons threatened with or suffering from phthisis, and a catalogue even of the most prominent of them would take up more space than can be permitted in this article. But few of them have been found beneficial longer than one or two seasons of each year, and as a result the unoffending consumptive, constantly seeking a suitable climate, has become, like the accursed Jew in the legend, a wanderer on the face of the earth.

The consensus of opinion given forth by those who have studied climatology both in the old and new world has been well expressed in the following synopsis drawn up by Dr. Charles Denison, of Denver, Col., which may be regarded as

the necessary requirements for any climate in which tuberculous patients can expect to attain permanent benefit:\*

1. *Dryness* as opposed to *moisture*.
2. *Coolness* or cold preferable to *warmth* or *heat*.
3. *Rarefaction* as opposed to *sea-level pressure*.
4. *Sunshine* as opposed to *cloudiness*.
5. *Variability* of temperature as opposed to *equability*.

#### *Confirmatory Propositions.*

6. *Marked diathermacy* of the air to be preferred to the *smoky atmosphere* of cities or the dense air strata of moist currents.

7. *Radiation and absorption of heat* by rocks and sandy loams better than *latent absorption* by water and damp clay soils.

8. *Mountainous configuration* of country (quick drainage) contrasted with the flatness, etc., of level sections.

9. Frequent electrical changes of atmosphere, also *moderate winds* (except in quite cold weather), preferable to *continuous stillness of the air*.

10. *Inland altitudes* contrasted with *sea air* (total absence of land influence); but in certain cases sea voyages and island resorts to be preferred as compromise substitutes for high altitudes.

In answer to the question, Is there any portion of our country that combines all of these various requirements? we would answer emphatically, *yes*; in almost the whole area of the territories of New Mexico and Arizona, in portions of Colorado, and the mountainous districts of California, may be found climates that conform to the foregoing requirements. But New Mexico possesses them to a greater degree and over a larger surface of country than any of the others.

New Mexico covers an area of 121,200 square miles, with an elevation above the sea as follows:

6,990 square miles.....	4,000 feet or less.
34,407 square miles.....	4,000 to 5,000 feet.
57,503 square miles.....	5,000 to 7,000 feet.
22,300 square miles.....	7,000 feet and over.

121,200 square miles.

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\**The Preferable Climate for Consumption*, a paper read before the Ninth International Medical Congress, 1887.

As the requisite conditions of climate are not marked under an altitude of 3,000 feet, and as no portion of the territory is lower than 3,500 feet, it behooves us to compare the different resorts and examine into their relative merits. There are a number of places in New Mexico with elevations of over 7000 feet which are comparatively dry, but as many are in mountainous districts they are apt to have too much precipitation, and are therefore to be avoided by the invalid.

A glance at the map of New Mexico will show that it is about midway between the oceans, and contains on its western border, running its whole length from north to south, the great continental divide, separating the waters that flow into the Pacific from those that flow into the Atlantic. Its distance from the oceans thus permits a large amount of moisture to be lost by the winds as they sweep over the continent, becoming quite dry by the time New Mexico is reached. Thus the fall and winter winds which, laden with vapor from the Pacific, make those seasons in California and Arizona exceedingly disagreeable, lose much of their moisture in the latter territory on the western slopes of the continental divide, and do not reach New Mexico until January, when rain is precipitated only over scattered local areas.

The rainy season of New Mexico comes at the time that it is most desired by the invalid resident—in midsummer, when over 20 per cent. of the total annual rainfall occurs, thus clearing the air of impurities that are most likely to do damage at this season, and adding greatly to the general coolness of the weather. This advantage alone would give superiority to the climate of New Mexico over that of California. Even in the rainy season the rain falls during only two or three hours of the day; in Silver City, for instance, the clouds gathering about noon and precipitating at 2 or 3 o'clock.

The climatic conditions referred to as necessary for tuberculous patients, as has been said, are found throughout the territory with the exception of the highest peaks, and a study of the returns of the Weather Bureau from stations more or less remotely separated will give an idea of their relative differences.

Reports from the following six New Mexican towns have been selected for comparison: Santa Fé, 7,026 feet; Las Vegas,



6,938 feet; Albuquerque, 4,950 feet; Socorro, 4,565 feet; Silver City, 6,000 feet, and Las Cruces, 4,000 feet. They are arranged in order according to latitude, Santa Fé (lat. 35 deg. 41 min.) being farthest north and Las Cruces (lat. 32 deg. 17 min.) farthest south. Albuquerque, Socorro and Las Cruces are in the valley of the Rio Grande, which flows directly southward through the middle of the territory. Santa Fé, Albuquerque and Silver City are in mountainous districts, the two former in the northern and the latter in the southwestern portion of the territory.

*Mean Temperature and Precipitation of Six Chief New Mexican Towns, Computed by Seasons, for the Year Ending with Spring of 1893.*

SUMMER—1892, JUNE, JULY, AUGUST.

	Mean Tempera- ture.	Tempera- ture Range.	Precipi- tation.	Number of days in which .01 or more of inch or more of rain or snow fell.
Santa Fé.....	68.0	42	3.98	27
Las Vegas.....	66.9	60	4.68	18
Albuquerque.....	76.5	44	2.74	5
Socorro.....	78.4	50	1.77	11
Silver City.....	72.9	53	3.64	19
Las Cruces.....	77.2	57	2.11	14

AUTUMN, 1892—SEPTEMBER, OCTOBER, NOVEMBER.

Santa Fé.....	50.7	43	1.70	12
Las Vegas.....	51.0	61	1.84	10
Albuquerque.....	56.3	45	1.95	7
Socorro.....	58.6	51	.68	4
Silver City.....	56.1	53	.99	6
Las Cruces.....	58.6	54	2.32	7

WINTER, 1892-93—DECEMBER, JANUARY, FEBRUARY.

Santa Fé.....	32.0	40	1.72	22
Las Vegas.....	34.2	60	2.24	14
Albuquerque.....	38.2	48	.49	6
Socorro.....	38.9	57	1.06	8
Silver City.....	40.2	51	1.50	8
Las Cruces.....	42.6	58	1.84	7

SPRING, 1893—MARCH, APRIL, MAY.

Santa Fé.....	47.1	50	1.77	16
Las Vegas.....	49.3	56	1.57	7
Albuquerque.....	54.8	56	.67	4
Socorro.....	58.5	63	.88	0
Silver City.....	52.9	56	1.85	5
Las Cruces.....	57.2	62	.79	4

The foregoing figures are valuable to the physician inasmuch as they illustrate the general climate of New Mexico, and because they enable him to point out the most desirable

resorts for the different seasons of the year. For example, it would be exceedingly unwise to send during the winter months a patient from the Gulf States to any place colder than Silver City or Las Cruces, and equally so to have him go during the summer months to Las Cruces, Socorro or Albuquerque.

The ideal winter resort of New Mexico is Las Cruces, which, with its twin city, La Mesilla, is located in the famed and fertile Mesilla Valley about twenty miles above the Texas line. It is located directly on the Rio Grande west of the Organ mountains, which, in the clear atmosphere, look like hills three or four miles away, but which are really great mountain peaks fourteen miles distant and 8000 feet in height. These mountains are perforated by valuable lead and silver mines. Las Cruces is a quiet little town of 4000 people, a large proportion of whom are Mexican, or "Greasers" as they are called out here. A good hotel built upon the *mesa* or high land on the edge of this town would be deserving of a large winter patronage, as Las Cruces is quite accessible, being about two hours' ride from El Paso, Texas. With two or three exceptions the accommodations at Las Cruces are poor. A plan for a cottage sanitarium twenty-four miles east of the town is still in embryo. In summer a few invalids have found it beneficial to camp out on the higher ground at the foot of the Organ mountains. After the first of April the heat at Las Cruces becomes very disagreeable, the temperature in the unclouded sun running far above 100 deg. Fahr. It is not a summer resort.

On the other hand, we find the cities of Las Vegas and Santa Fé presenting most of the requirements of the patient with weak lungs who seeks a summer residence. Being in mountainous districts the summer rainfall is greater than in the cities of the valley, and this, together with their higher altitude and latitude, causes the temperature to be much lower than that of other cities in the territory. These rains would be very objectionable to the invalid were it not that they are of short duration, and that the slope of the ground and porosity of the soil cause the water to flow off and disappear at a very rapid rate, leaving the atmosphere quite dry and free from impurities. As a consequence there are very few days during the

rainy months in which a patient may not find a few hours, morning or evening, to venture out.

The mean temperature of these two cities is about that of New York City, St. Louis and Salt Lake City, while their summer temperature is about that of Detroit and Chicago, but experience has shown that here as in other high, dry altitudes the cold is felt to be less penetrating in winter and the heat far less oppressive in summer.

A residence in this territory during both winter and summer has convinced the writer of the correctness of the foregoing statement, and that for equal temperatures the winter's cold and summer's heat are far more easily borne and less intensely felt than in the Eastern and Southern States—a difference due to the great dryness of the climate.

A few miles from the town of that name are the famous Las Vegas Hot Springs, which have become a delightful summer resort, and are deserving of a greater reputation than they now enjoy. They have been found to be very useful in rheumatism and gout, as well as many cutaneous and syphilitic diseases. In the treatment of the latter the bath of soft, hot mud is a conspicuous and advantageous feature. The waters are strong in lithia.

Before passing on to Silver City, which we believe to be the best all-the-year-round health resort, it may be well to say a word or two about Albuquerque and Socorro. These, like other New Mexican towns, have great advantages of climate. They are both situated on the Rio Grande, and the latter town is, commercially speaking, but a small edition of the former. Albuquerque is perhaps the most important, as it is undoubtedly the most progressive city of the territory. The position held by these two places, climatically, is a sort of mean between those already mentioned—not as warm in winter as Las Cruces, nor as cool in summer as Las Vegas, Sante Fé and Silver City. Perhaps it would be well to describe them as pleasant resorts for the spring and fall.

We now come to Silver City, a mining town of 3,000 inhabitants, in the southwestern portion of the territory, with an elevation of 6,000 feet. It is located partly on the hillsides and partly in an *arroyo* or open valley immediately surrounded by

hills about 200 feet higher than the town, and more remotely by mountains on the north—some 2000 feet higher. The natural fall of the main street is 260 feet to the mile. Its peculiar location gives it a great advantage over other New Mexican towns, more particularly Albuquerque, Socorro and Las Cruces, inasmuch as the surrounding hills cut off the hard winds that are so disagreeable at all seasons on account of the dust they carry, but more particularly in winter. when the element of cold is a serious consideration. Dust and wind storms are much less common at Silver City than in the valley of the Rio Grande, and only an invalid can testify to the disagreeableness of such conditions. The water for the supply of the town is intercepted by a sort of underground dam about a mile above, and is supplied in iron pipes. Like that which is procured from wells along the Rio Grande, it is "hard," and has a slightly alkaline taste, and without being at all an ideal drinking water, it serves its purpose, and has never been known to produce sickness. In a valley about six miles long, above the water-works, there are but two or three residences; so the danger of contamination from animal excreta is at a minimum.

The following figures given by Professor W. G. Waring, who has analyzed the water, show that it is superior to that which supplies the city of Denver:

WATERS.	Grs. per gal., total hard- ness.	Grs. per gal- lon, perma- nent hard- ness.	Grs. per gal- lon chlo- rine.	Parts per mill. gals. of free ammonia.	Parts mill. gallons of albumi- noid am- monia.
Silver City .....	11.72	10.8	.86	.03	.091
Denver, Holly .....	10.6	8.2	2.83	.045	.24
Denver, well .....	22.5	.....	12.32	.06	.45
London .....	15.	.....	1.20	.01 to .06	.06 to .18
Thames river.....	16.5	.....	.80	1.02	.35 to .54
London, well.....	5.2	.....	33.20	7.50	.25

The natural fall of the long streets of the town from north to south insures rapid and thorough drainage, and the floods that sometimes come down from the mountains and pour through the streets for two or three hours in summer time often serve as scavengers, removing débris and animal excre-



ment, besides laying the dust. In a short time after the disappearance of the floods the atmosphere and streets are dry again as before. Unless it be Santa Fé, there is probably no city in New Mexico to which are more applicable the following conclusions of Dr. Buchanan, who has investigated the subject of phthisis in Surrey, Kent and Sussex, England:

“There is less phthisis among populations living on pervious soils than among populations living on impervious soils.

“There is less phthisis among populations living on high-lying pervious soils than among populations living on low-lying pervious soils.

“There is less phthisis among populations living on sloping impervious soils than among populations living on flat impervious soils.”

But the chief advantage that Silver City possesses over other places in New Mexico is the fact that her climate is suitable to the invalid at *all* seasons of the year. If he is cold in winter he has but to walk in the sun to become warm again, and if too hot in summer he need only seek the shade to find a comfortable coolness; but it may be safely said that there are not ten days in the year in which an invalid who is able to leave the house can not spend most of his time in the open air. This point of *life in the open air* must be accentuated, for it has been truly said that all climates are the same *in-doors*.\*

Referring to the figures given on a previous page we see that in the summer of 1892 Silver City was the third coolest of the six towns of which we have reports, its mean temperature being 72.9 deg. Fahrenheit, having less rainfall than the two cities that are recorded as cooler.

June is by far its most disagreeable month, doubtless because the rainy season, which begins in the middle of July and lasts to the end of August, has not yet set in.

In the autumn of 1892 Silver City had less rain than any of the towns enumerated save Socorro, and, with a mean temperature of 56.1 degs., continues to rank as the third coolest city.

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\*The observations for this district are now taken at Fort Bayard, eight miles from Silver City. But as the altitude of the fort is the same as that of Silver City, and as it is surrounded by mountains of the same height, the reports may fairly be considered as representing both places.

In the winter of 1892-93 we find that with a precipitation less than that of Las Cruces it ranks next to that place in warmth, or, in other words, though a little colder, it is also dryer. It is but fair to say, however, that the records of a number of years show that the precipitation at Las Cruces is, if anything, a little less than it is at Silver City.

Coming to the spring of 1893, we find that Silver City leads in precipitation; but all of the rain and snow fell in the space of five days, the remaining eighty-seven being clear.

As to temperature we find that, as in the summer and autumn, it is the third coolest city of the group.

From what we have seen, then, it is apparent that Silver City possesses advantages of temperature for the four seasons superior to the other places considered. Though cool in winter it is not too cold for the invalid to venture out, and though warm during portions of the summer (June), it is pleasant in the shade, and the nights are always cool. Sunstroke is unknown in New Mexico. The dryness of the climate prevents excessive perspiration, a species of annoyance so common in other countries, the skin being always dry except after unusual exercise.

This feature, the dryness of the climate, is apparent to the stranger at every turn. He sees it in the uncrumbled adobe walls built by Apache and Pueblo Indians over two hundred years ago, and in the perfectly preserved household articles left by Cliff-Dwellers in prehistoric times. He feels it in the dryness of his lips in winter, and the stiffness of his starched collar in June. He notices that if his ink bottle is not corked he is writing from a paste instead of a fluid, that his leather goods need an unusual amount of oiling, and his newspaper is brittle and easily torn. The absence of dew permits camping-out more than half the year, a shelter being unnecessary during the summer months to those who have a blanket in which to wrap themselves.

Atmospheric moisture is due in part to vapor brought by the winds from distant bodies of water, but chiefly to that drawn up by the sun from the damp soil or the standing or running water of a given locality. We have seen already that the winds have been deprived of most of their moisture before

reaching New Mexico, and can therefore contribute but little to its humidity. Examining the topography of the country, we find no lakes or standing pools about Silver City, while the nearest river, the Gila, is thirty-five miles away.

Accurate figures for comparing prominent places for the same year are difficult to obtain, but the following will show the advantages in humidity possessed by Silver City over the two great resorts on the eastern and western coasts of the United States—Jacksonville and San Diego:

*Mean Relative Humidity for the Year Ending July 1, 1881.*

Silver City, N. M.....	43
Santa Fé, N. M.....	43
San Diego, Cal.....	72
Jacksonville, Fla.....	71
St. Paul, Minn.....	68
San Antonio, Texas.....	73
Boston, Mass.....	66
New York City.....	70
Philadelphia, Pa.....	67
Chicago, Ill.....	67

It is not intended here to prove or expand upon the five requisite conditions laid down by Dr. Denison, and for further information the reader is referred to the article already quoted.

These conditions are found only in high inland altitudes, and Silver City is 6000 feet above and many hundreds of miles away from the sea.

Patients with asthma, bronchitis or incipient phthisis may come to Silver City direct without fear of danger from the altitude, but if the heart is weak, or if hæmorrhage has been very recent, it were well to stop over for a month at El Paso or Las Cruces, with altitudes of 3,764 feet and 4,000 feet respectively. The weaker the patient the more prolonged should be his journey to high altitudes.

The opinions of medical men as to the effect of the climate of New Mexico upon patients with organic heart disease vary considerably, but the writer is with the majority when he advises such patients not to go higher than 4,000 feet, or, to put it more practically, no further north than Las Cruces or La Mesilla.

The reader will observe that with one exception the altitude of the stations here given increases from south to north, causing a much more marked difference of temperature than

would be produced by latitude alone; and the advantages of climate enjoyed by Silver City are due in part to the fact that while it is nearly as far south as Las Cruces it has an altitude of 2,000 feet more.

An interesting feature of the climate of New Mexico, upon which sufficient stress has not been laid, is the increased electrical tension of the body experienced in the cold days of winter. The therapeutic effect of this is far-reaching, inasmuch as it involves other forms of debility than that produced by pulmonary disease, and more particularly diseases of the nervous system.

Upon this subject Dr. F. W. Seward, of Goshen, N. Y., has said in an article read in 1892 before the American Health Resort Association:—

“Lessened induction of electric fluid gives rise to a more positive state of the body. A positive state is one of energy, functional activity, and consequently of increased nutrition and strength. It has been demonstrated within a comparatively recent date that men employed about electrical works, and particularly on electric street cars, or where there is a large induction of electric fluid, have experienced immunity in a large degree from chronic ailments. The atmosphere immediately about them is heavily charged with electricity, hence that within does not flow from them. ‘Virtue’ has not gone out of them. It is a question if the enervation we experience from warm, damp weather is not largely due to the rapid outflow of electric current, or, in other words, to a more negative state of the system. Contrast with this enervation the stimulating influence of a cold, clear, crisp atmosphere, when the humidity is congealed and the air becomes a less perfect conductor.

In studying the climatology of our country from this standpoint, and admitting the value of the above mentioned attributes, as one must, I am ready to affirm that in no other section will the perfection of these be so nearly found, or approached, as in New Mexico.”

The present writer recalls several occasions during the past winter when, after a walk in the hills about Silver City, he shook hands with persons causing them to start at the electric shock received in the touch of fingers. Exercising in the dry



air he had become charged with electricity, and on the first contact had discharged the fluid, like the shock from a Leyden jar.

A lady residing in Silver City, who has a heavy suit of hair which she is fond of having combed by a companion, has been compelled to forego this process in cold weather on account of the burning pain produced by it.

To those who have faith in the efficacy of pine forests, it may be said that the mountains about Silver City are covered with these trees, and may be reached in a fifteen minutes' walk to the north, east or west. The hills of the town proper are almost without trees, being covered with bear grass and varieties of the maguey plant. Closer in are large native cottonwood trees, which afford excellent shade, and are found throughout the country wherever there is human habitation.

The accommodations are good, as to board and lodging, and there are several well-conducted restaurants in the town.

The hills abound in doves, wild pigeons, quail and rabbits, and further out in the mountains are bear, deer and antelope. Duck hunters who go as far as the Gila river are usually rewarded with plenty of game.

The roads about Silver City are for the most part quite good and are used by a number of persons of all ages and both sexes who have bicycles.

In endorsing Silver City it has been the intention of the writer to show at the same time the advantages of climate possessed by the whole territory, holding up the former place more as a type of New Mexican resorts, rather than the sole desirable one. Silver City has no one property of climate in which it is not equaled by some other locality, and it is in the *tout ensemble* alone that it can claim its superiority.

Much has been written of Colorado as a resort for consumptives, and it deserves much of the praise it has received, as is evidenced by the many cures that have taken place there, but the intense cold of its winter climate and the many days, relatively, in which snow lies upon the ground, are causing invalids to look further south for a balmier climate. New Mexico possesses all the advantages claimed for Colorado, with the added one of a more temperate winter.

The hot springs which abound in all portions of the territory have been found of great value in rheumatic diseases, and need only to be known to be patronized. This latter remark will apply to all of New Mexico, which has, until recently, been regarded as little better than a desert, but which is becoming known to the profession as possessing advantages to the patient with weak lungs that are not equaled anywhere in the United States, and which are not excelled, perhaps, anywhere in the civilized world.

The class of patients receiving most benefit in New Mexico are, naturally, those that are able to get about and receive all the benefits of sunlight and moderate exercise. There are hundreds of healthy persons in the territory to-day who were a few years ago victims of asthma, chronic bronchitis, incipient phthisis, or unresolved pneumonia. Some were sufferers from marked cases of phthisis with cavities, and were carried to their boarding places on chairs or in a stretcher. These, of course, are fewer in number, but they form a fair percentage. Many phthisical patients have come out only to die, having waited too long before taking the final step of change of climate, which for this reason proves only too often a fatal step.

Asthmatics gain comfort immediately in this clear, pure air, and persons who have run down rapidly seem to pick up flesh equally as fast. Chronic cases improve more slowly but steadily.

A mistake made by many is in expecting too much of the climate, and they either remain in-doors too much, taking little exercise, or over-exert themselves in dancing or other amusements, spending too much time out-doors on cold nights.

In these high altitudes the sun is the great life-giver, whose movements should be carefully watched, and no invalid should venture abroad without his companionship.

Folly in matters of common sense has caused the loss of many lives in this region. We know of a young man with tuberculosis of the lungs who walked seven miles to a dance after nightfall twice a week. In less than six months after his coming he was taken home a corpse. Another fatal case was a young man with the same disease who contracted pneumonia

by being caught in a hail storm while hunting in winter high up in the Organ mountains.

Other cases might be mentioned, but they only go to show that patients can not be cured in spite of themselves even in New Mexico.

*Silver City, N. M.*

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#### CASE OF SPERMATO-CYSTITIS.

BY DR. G. S. FOUTE, SHERMAN, TEXAS.

Mr. Tom. M——, a young man of 23, came to me on July 27, 1892, for treatment. He had had gonorrhœa for eight months; and had been treated unsuccessfully by several physicians. He had used several bottles of Big G, also several prescriptions given him by young associates that had cured them, but with no relief.

The case presented the following symptoms :

There was no discharge except a slight muco-purulent discharge on first voiding urine in the morning. Complained of shooting, darting pains radiating from the perineum through bowels, bladder and penis, the glans penis sometimes throbbing as if an abscess were forming at that point. Also sense of constriction back of the corona glandis, as if tied with a string, tenderness on pressure in perineal region and loss of sexual power. Made diagnosis of prostatitis following urethritis. Put him on Sanmetto and good general tonic, as he was debilitated, and his system generally out of order. After two weeks' treatment his general health improved, but as the pain in the perineum still persisted I put him on the table and made a rectal examination, and found tenderness by pressing on left visicula seminalis. The right one was much swollen and exquisitely sensitive.

Dr. A. F. Wright called my attention to a similar case reported in the *Medical News*; the doctor reporting the case calling it spermato cystitis, giving symptoms and no treatment. After making diagnosis I put him on syrup ferri iodide, kept up Sanmetto with this addendum :

℞ Pulv. opii.	
Cocaine muriatis.....	grs. iii.
Ext. Bellodonnae.....	grs. vi.
M. et ft. suppos. no. viii.....	vo. xii.
Sig. As directed.	

Gave patient directions to inject into rectum one quart or water as hot as he could stand it at bedtime, retain as long as possible, repeat injection, and after it had passed out introduce one of the suppositories. In less than a week he was back, said the discharge had returned, and wanted a wash to use with syringe. Did not think it advisable, and continued treatment, except substituted oil of sandalwood and ol. gaultheria for Sanmetto. At the end of two or three weeks, on making a rectal examination, the tenderness had almost entirely disappeared. Continued this line of treatment until October 10, when I had the pleasure of discharging the patient. I have seen no literature on this subject except in *Medical News*. I would like to hear from other physicians on the subject.

The suppositories quieted the pain and nervous symptoms, and seemed to soften the inflammatory product in the vesiculæ seminales, and thereby assisting its exit from the urethra. The hot injections also kept bowels open; were valuable in allaying pain and soften the inflammatory product, as one of the symptoms was restlessness, almost amounting to insomnia.

I am indebted to Dr. H. F. Wright and Dr. W. L. Michael for valuable assistance in the case. Think this trouble is more frequently a sequel of gonorrhœa than we think for.

#### EXTERNAL URETHROTOMY FOLLOWED BY SEPTIC ARTHRITIS.

BY E. D. FENNER.\*

The case which I propose to present to you to-night is in truth one upon which an external urethrotomy has been performed, but the operation itself has been completely overshadowed by the complications that ensued. I lay it before you not to serve as a text for any discussion of septic arthritis, but simply as an example of the severe and unexpected results that sometimes follow an apparently simple and favorable operation. For many of the data I am indebted to Mr. Lovell, R. S. of

\* Read before Orleans Parish Medical Society, August 9, 1893.



the ward. John Henry, aged 21, was admitted to No. 2 on June 25, 1893, suffering from urethral stricture. He passed his urine with straining and in a very small stream. This he had noticed three months before, but it had grown progressively worse. As is frequently the case with negro subjects, he denied any previous venereal trouble. On June 27 a filiform was inserted with the intention of passing a Goulé sound. The whalebone was old and defective, and, slipping from the grasp of the assistant who held it was doubled upon itself by the sound and broke off in the urethra.

External urethrotomy was now done, the whalebone extracted (a portion of it was fortunately still in the urethra) and the whole canal was dilated with steel sounds. Considerable trismus was inflicted upon the penile portion in this operation.

The patient was put to bed and in the evening his temperature was 101 deg. From that time till July 5 the temperature ranged between 99 and 100 deg., when on the morning of the 5th it rose to 103 deg. From that time till the 16th it remained very high but irregular, owing to the use of antipyretics. On the 8th the thermometer registered 105½ deg.; on the 11th it was again above 105 deg. These were the highest records. On July the 16th he was transferred to a medical ward, on the suspicion of typhoid fever.

From the day after the operation he complained of pain in the urethra and perineum, but no sign of a phlegmon could be discovered and the urine was only slightly tinged with mucus. With the advent of the high fever came intense lumbar pain, with some tympanites and tenderness over abdomen.

He remained in the medical ward for thirteen days, during which there developed an arthritis of the left wrist, and of the right knee and elbow. His temperature now ranged between 99 and 102 deg., generally being about 100 deg. His condition was one of general sepsis. Abscesses formed and were opened on the shin below the inflamed knee, and in the axillæ. From the right elbow and knee fluid was removed with the aspirator, in which was found a considerable amount of pus. The joints were immobilized with plaster casts, and in

the case of the knee an ice bag was kept on for three days, before the plaster was applied.

In addition to these serious joint troubles, on August 10 a profuse watery diarrhœa commenced and continued till the 23d, when it was finally checked by the lead and opium pill, having been uninfluenced by mixtures of bismuth, salol and chalk. From August 23 the man began steadily to improve. The swollen joints subsided, temperature seldom rose above 99 deg., appetite returned, and on September 1 he got up and has since been able to sit up during the day.

Of course, during this time the urethra has been left to itself; at no time has the man been in a condition to stand the passage of a sound, but some urine passed by the meatus, and before long I hope to be able to pass an instrument and restore the canal. Throughout the case the treatment has been symptomatic. Fever was combated with quinine and phenacetine, and with sponging.

The joints were put at complete rest by means of immovable splints. In the case of the knee a considerable amount of fluid was withdrawn by the aspirator and the ice bag applied for several days.

While still weak and not entirely over the arthritis, the patient is rapidly improving, and we hope will yet recover entirely.

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## Proceedings of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

#### LARGE DOSES OF STRYCHNINE IN THE TREATMENT OF PULMONARY AND CARDIAC DISEASES.

By THOMAS J. MAYN, A. M., M. D.,

Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to the Rush Hospital for Consumption.

From quite an extended experience with the use of strychnine I feel convinced that this drug gives better practical results in the treatment of pulmonary and cardiac diseases than any other single remedy at our command, and it occurred to me

that a short discussion of the principles which I have followed in its administration might be of interest to the members of this society.

It is needless to tell you that strychnine has a more powerful stimulating influence over the nervous system than any other drug in the materia medica, and that besides its general action it has a special influence on the nerve supply of the lungs, heart, stomach, intestines, etc. Now, without going into details, it is my belief that many affections of the lungs and heart are fundamentally dependent on disorder of the nerves which supply these organs, and that the curative effects of this agent in these diseases rests largely on the power which it has in correcting this primary aberration. Over and above this it has been recently shown that strychnine also has the faculty of multiplying the corpuscular elements of the blood, and is therefore, like iron, a blood-builder. A combination of such valuable properties in a single agent makes it apparent on theoretic grounds alone why strychnine should possess such a beneficial therapeutic effect in the diseases which we are considering, since anæmia is one of their most common complications.

In spite of these desirable qualities I believe that we often fail in obtaining its best effects by giving it in doses which are entirely too diminutive. I do not mean to say that strychnine should be given in large doses in every disease to which it is applicable, for such a statement might lead to great harm if it were practically carried to its legitimate end, but these remarks pertain only to those diseases to which reference is made in this paper. The custom of giving strychnine in doses of 1-60 or 1-50 of a grain I have discarded long ago, for I feel satisfied that such amounts are comparatively worthless.

It is very rare that I begin with a smaller dose than  $\frac{1}{32}$  of a grain, and more often with  $\frac{1}{30}$  of a grain, and then gradually increase in an ascending scale until I touch the limit of toleration. Strychnine is peculiar in this respect. The length of the ascending scale from the effects of such a dose to a point where the physiological action of the drug begins to develop itself is usually very long, and during the time that this is traversed by the therapist a free opportunity is given in which to obtain the full stimulant action of the drug in gradually increased doses. I usually incorporate one grain of strychnine with phenacetin, quinine, etc., and divide the whole into thirty-two capsules, and give one capsule four times a day. This lasts eight days, and then  $\frac{1}{8}$  of a grain more of strychnine is added to the whole quantity, which is thereafter increased  $\frac{1}{4}$  of a grain every eight days until the limit of toleration is approached. This varies very much in different individuals.

I have a number of patients under my care at the present time who are taking  $\frac{1}{10}$  of a grain, and four who are taking  $\frac{1}{7}$  of a grain, and one who is taking  $\frac{1}{6}$  of a grain four times a day. Most of these patients have been taking the drug from three to seven months continuously. I have seen patients, however, who could not endure more than  $\frac{1}{20}$  of a grain four times a day. So soon as the patient begins to show evidence of intoxication the dose is reduced to a point where this is no longer manifested, and then maintained there permanently or again increased after some time. It is possible, however, and this should always be borne in mind, that the dose which was toxic once may in time be taken with impunity. This would seem to show that the poison line of strychnine recedes, and that the drug establishes a certain degree of tolerance for itself. Yet I have met with one case where the administration of the drug was broken off for almost two weeks, and then, on resuming the same dose which was previously taken, marked rigidity of the lower limbs followed after the first two doses.

What, if any, are the untoward effects of strychnine when given in such large doses? So far as I know there are none except is occasional tendency to produce diarrhœa; but at the very worst I do not believe this proneness is very pronounced. In my earlier acquaintance with it I fancied that it aggravated the diarrhœa which is such a frequent accompaniment of phthisis, but my later experience fails to confirm this, since I have seen cases of intestinal tuberculosis get well when strychnine was given in combination with morphine and oxide of zinc. It has been asserted that it causes albuminuria by reason of the high blood tension which it brings about. Of this I have not observed the least evidence, having frequently examined the urine of patients to whom strychnine had been administered in such large doses for more than a year.

I will now briefly consider in greater detail the mode of giving strychnine in each disease to which it is believed to be applicable. In *asthma* I usually begin by introducing about  $\frac{1}{20}$  of a grain under the skin, and administer about  $\frac{1}{30}$  or  $\frac{1}{25}$  of a grain by the mouth four times a day, and gradually increase this in the way above indicated. Hypodermatically it is given once a day or every other day, and if possible in the evening, until there is an approach to the production of the toxic effects of the drug. Suitable doses of phenacetin, quinine, capsicum, and ammonium muriate will enhance its action. So far as my experience goes strychnine must be regarded as the most powerful adjuvant in the treatment of asthma, although we must never lose sight of the importance of treating the diathesis or exciting cause on which the disease often rests, and also of improving the general nutrition.



*Bronchitis*, whether acute or chronic, is very much benefited by strychnine. It checks the cough, diminishes the expectoration, improves the appetite and puts to one side the whole constitutional relaxation and feebleness frequently present, especially in the chronic form of the disease. It must be given in ascendant doses, and may be combined with benefit with the syrup of the hypophosphites or hydriodic acid, or with both.

Strychnine is one of the most useful agents in treating acute pneumonia, whether this is of the croupous or catarrhal variety. I usually begin by injecting  $\frac{1}{20}$  of a grain, and if the case is severe I keep this up morning and evening, together with the internal administration of  $\frac{1}{20}$  of a grain every three or four hours until symptoms of intoxication begin to show themselves. This I have seen to take place on the second or third day of the disease. If the case is a mild one it will suffice to give  $\frac{1}{20}$  of a grain every three or four hours.

I know of no disease which is more eminently benefited by strychnine than pulmonary consumption. Indeed, as a rule, it seems that sufferers from this disease are capable of taking this drug in extraordinary large doses. I have a number of phthisical people under my care at the present time, both in hospital and in private practice, who are taking over half a grain of it a day—a dose which had been reached by a gradual increase of a smaller one. For a more complete description of the use of strychnine in primary pulmonary diseases I would refer you to a paper of mine on this subject, contained in the *Medical News* of July 22, 1893, and the remainder of this paper will be devoted to a consideration of the application of this drug to cardiac and cardio-pulmonic diseases.

In recommending strychnine as one of our most valuable cardiac stimulants a fear may spring up in the minds of many that this drug is put forward for the purpose of displacing digitalis—the old and well tried heart-tonic. That such a suspicion is not altogether groundless when held by those who prescribe digitalis for almost every phase and form of heart disease they meet, is true; but he who looks the question of cardiac therapeutics squarely in the face feels, altogether more perhaps from an instinctive than from a scientific standpoint, that the action of digitalis is not interchangeable with that of strychnine, and that each fulfils its own peculiar indication in the treatment of diseases of the heart. Although we may not be able to draw a rigid line of demarcation between the behavior of these two agents, we have experimental evidence to show that digitalis acts more on the muscular and less on the nervous structure of the heart than strychnine. My own experiments

demonstrate that digitalis enhances or increases the irritability of the heart muscle, while strychnine depresses or reduces it; and that the former arrests the heart in systole while the latter arrests it in diastole. It is my belief that the action of these drugs is as dissimilar clinically as it has been shown to be physiologically; and that strychnine is principally indicated in those diseases of the heart which are dependent on a disturbance of innervation, as for example, in simple cardiac weakness and in irregularity and intermittency of its pulsations, while digitalis is preferable in cases where there is a want of compensatory power in the heart muscle, as in valvular incompetency.

Bearing in mind this difference, strychnine should be prescribed when the nerve supply of the heart is enfeebled through auto-intoxication such as is found in the post-paralysis of diphtheria, scarlatina, measles, small-pox, influenza, whooping-cough, and in poisoning from alcohol, lead, mercury, etc.

Irregularity and intermittency of the heart's action are frequently benefited by the administration of large doses of strychnine, and more often than not do we find that digitalis is utterly useless in such cases. Sometimes the irregularity will remain even under the influence of strychnine, but the symptoms which are dependent on or are a part of this condition, such as pain in the precordium, orthopnœa, oppression of the chest, will improve or disappear, especially if suitable evacuant remedies are used at the same time. The whole disorder I regard as being probably due to a want of power in the discharge of nerve-force of the heart, or rather, perhaps, to a lack of nerve control over the discharge of the muscle force of the heart. This weakness of nerve-power is not only marked in the heart, but it is also apparent in the lungs and frequently manifests itself, especially in elderly people, in a coexistent œdema of the bases of both lungs.

Moreover, there is often found an irregularity or intermittency of the heart's action in severe seizures of asthma, and I know of nothing which will remove this accompaniment, as well as the original disease, as strychnine in large doses promptly administered, both hypodermatically and by the mouth.

Angina pectoris is another paroxysmal disease in the treatment of which strychnine in large doses stands pre-eminent.

Again, digitalis is always regarded as the sovereign remedy in the treatment of valvular diseases of the heart and their sequences, but there comes a period in the life history of every such affection in which digitalis, no matter how much benefit was derived from it before, proves utterly useless. This leads of course to disappointment, and often gives rise to serious

suspicion concerning the utility of this important agent. The fault lies, however, not in the drug, but in its improper application. It has done all that could be reasonably expected of it. It stimulated the heart muscle to renewed activity after the valvular rupture occurred. It aided in developing its muscular fibres, and restored its former power; but now, for some reason or other, the nervous energy of the patient begins to flag, and the heart-walls commence to relax in spite of the muscular hypertrophy which is present, and digitalis no longer possesses the spurring properties which it once had. The blood dams up in the left ventricle and auricle, the pulmonary circulation becomes impaired, œdema and congestion of the lungs follow, and death is threatened by way of the pulmonary organs. It is at such a time, when digitalis fails to counteract these many incidental complications, that strychnine steps in and shows its superior value as a tonic to the waning nerve energy of the heart and lungs.

#### DISCUSSION.

Dr. Lawrence F. Flick: This is too practical a subject to be permitted to pass without some discussion. There is no drug that has become more popular in recent years than has strychnine just in the class of cases to which Mr. Mays alludes. Whilst we have apparently empirically come to the conclusion that this drug is of very great value in these diseases, I do not know that I have seen a satisfactory explanation of why it is so. There is one peculiar result in the use of strychnine which gives somewhat of a clue to its manner of action. This was not mentioned by Dr. Mays. It is the marked increase of weight that occurs under the use of large doses of strychnine. I do not know of any other drug which will produce this effect so rapidly and so satisfactorily. It seems to me to indicate that the real cause of benefit, after all, is possibly the increase of nutrition, and yet why this increase in nutrition from the use of strychnine? It is probable that its effects in stimulating involuntary muscles has a great deal to do with the result. The special action of strychnine is stimulation of involuntary muscles. This is true not only of the muscles of the heart and of the blood vessels, but also of the muscles of the stomach, intestines, etc.

In the treatment of tuberculosis, strychnine is certainly one of the most valuable remedies that we possess. It should be used in large doses. It along with many other remedies which go to build up the nervous system and improve the nutrition, are really essential in the treatment of tuberculosis. When we use remedies which build up the nervous system, and with

them use the germicides that have lately been introduced, we can obtain very gratifying results in the treatment of this disease which has hitherto been so discouraging. The use of strychnine and other stimulating drugs should be accompanied by the employment of such germicides as have shown themselves to be of value. I have seen recently reports of some excellent results with tuberculin and tuberculocidin, and if these reports continue to come as they have, I feel that we can soon approach the treatment of tuberculosis with a great deal more courage than in the past.

Dr. Charles Wirgman: I can give my testimony as to the value of strychnine in asthma. I have a patient suffering with severe asthma, the result of hay fever, taking one-twelfth of a grain four times a day. He is a man of relaxed muscular fibre and rather feeble constitution. He has had these attacks every autumn for some years. I began with one-sixtieth of a grain and increased to one-fortieth, and then to one-thirtieth. Observing no toxic symptoms, I increased the dose to one-twentieth and finally to one-twelfth, four times a day, I think with decided benefit to the general nervous tone. I have never observed in this case or in others any accumulative effect of the drug. As far as its influence upon the pulmonary tract is concerned, I have observed no positive action, that is in the sense of an expectorant, but it certainly does increase the general tone so that a patient has more strength to expel the secretion which accumulates. The only symptom that might indicate a toxic action has been a slight amount of spinal irritation, but I have been inclined to attribute this to the semi-recumbent position which he has been compelled to maintain.

Dr. S. Solis-Cohen: There is no question in my mind that large doses of strychnine can in certain cases be well borne for prolonged periods. In hysterical and other forms of aphonia, and in paralysis following diphtheria, I have frequently given as much as one-fifth of a grain three times a day for several days in succession, having reached this dose by gradual increment; and I now have under my care a man who has been taking one-tenth of a grain of strychnine three times a day for some two years, and who has at times for short periods taken even larger doses. This is a case of syringomyelia with cardiac feebleness. But while I am sure from what Dr. Mays and others have reported, and from my own observations extending over many years, that these doses of strychnine can be well borne and are useful in certain selected cases, I am not one of those who believe that these large doses should be given in every case or to a large number of cases. Both in acute cases and when the drug is to be long continued, I have seen, as a



rule, better results from what nowadays would be considered very small doses, namely, about one-sixty-fourth of a grain or one milligramme. The reason for that, I think, is quite clear. In some very interesting researches communicated by Mr. Hodges to the American Physiological Association at the last meeting of the Physicians and Surgeons at Washington, and in which the effects of exercise and rest upon the ganglion cells of the brains of bees and sparrows were demonstrated, it was shown that during the periods of activity a certain vacuolation of the gray matter of the nerve-cells was produced; an absolute destruction of tissue during the physiological process of nervous function.

During the period of rest, repair takes place. Strychnine is an agent which above all others stimulates nervous function, and naturally in the process of stimulation of nervous function leads to destruction of nerve tissue. This is, of course, the absolute physical necessity; energy can only be produced, whether in the body or out of it, by an arrangement of matter—a reduction of existing forms into less complex forms, with liberation of the energy locked up in the complexity of structure. Mr. Hodges also showed some spinal cells from a cat poisoned with strychnine, and called attention to the correspondence between the vacuolation in the spinal cells of the cat from strychnine activity and the vacuolation in the brain cells of bees and sparrows from normal activity; there is no doubt in my mind that the correspondence holds throughout. Strychnine adds nothing to the stores of energy of the patient. Its great usefulness in apparently giving strength to a weak man is due to the fact that it calls upon him for the exercise to the full of such reserve energy as he possesses. It stimulates the nerve cells to their highest activity, quickly liberating the locked-up energy, and in so stimulating it inevitably uses up a certain amount of nerve tissue. If after this, sufficient rest is allowed, repair takes place, and takes place more quickly because the nutritive processes have been stimulated by the action of the drug.

Now, if the amount of activity with concomitant reduction of nerve tissue caused by strychnine can be proportioned to the needs of the patient so nicely that we shall get the maximum of stimulation of the nutritional processes and the minimum of expenditure of the patient's nerve tissue, it is evident that that is the proper point at which to stop. Pushing it beyond that, we cause an unnecessary expenditure of energy and loss of tissue which has to be made up from the food and in other ways. The nicety of adjustment most beneficial is not to be expressed in figures; it differs with the patient and with

the disease, and to reach it requires careful observation and good judgment. Still it is something that we should aim at and that every intelligent physician should be able to secure. The fact that we do not kill a patient by large doses of strychnine does not necessarily prove that we have done him good. The fact that a patient is not killed by a surgical operation does not prove that the operation was indicated in that particular case. It may have been or it may not. Dr. Mays has alluded to the tolerance finally produced to large doses of strychnine. In this lies, I think, the patient's safety. The nerve cells become habituated to it, and refuse to respond up to a certain point. It is the small excess beyond this point that is over the amount tolerated, to which the therapeutic effect is due.

In the treatment of acute pneumonia strychnine is unquestionably one of the best agents that we possess, given in proper doses. I have had occasion to observe at the Philadelphia Hospital, in patients side by side, the comparative effect of small and large doses, and while admitting all the difficulties in the way of drawing conclusions from such comparisons, I am sure that the patients with small doses did at least as well as those who received large doses. I am not afraid to push strychnine up to one-half a grain if necessary, and when the indication for such dosage exists. In Dr. Mays' cases I have no doubt that large doses were indicated, but in less skilful hands than Dr. Mays I am sure the routine use of large doses might do harm—not by producing immediate death, but by gradually exhausting the nervous energy of the patient.

In acute cases the best method of administration of strychnine is by means of dosimetric granules. I use the word "dosimetric," not that there is anything magical in the term, but that it indicates the manner in which the granules are prepared. Strychnine arseniate in doses of half a milligramme ( $\frac{1}{128}$  grain) can be given and repeated every fifteen minutes or half an hour until the desired physiological or therapeutic effect is produced. The administration can then be stopped, and, as the effect is often prolonged, need not be repeated until the next day. In some cases the nurse can be instructed to administer three or four granules—one granule at a time—at intervals of half an hour, and then none for three or four hours. Sometimes, after a patient has thus been given four granules ( $\frac{1}{30}$  grain), the effect can then be kept up by a single granule twice or three times a day. As I have elsewhere published my views concerning the important place of strychnine in the treatment of affections of the heart, I will not now dilate further upon it.

To repeat what I more particularly desire to contribute to the present discussion, I believe that while strychnine is very

useful in all the conditions described by Dr. Mays, the best effect can be obtained by limiting the dose to the smallest quantity that will produce the physiological reaction intended.

Dr. Mays: I do not know that I have much to say in conclusion. The remarks made by Dr. Flick with reference to the influence of strychnine on nutrition are very apropos. The reason that I did not allude to this was because I have discussed this part of the subject in the paper to which I have referred. It is quite evident to my mind that Dr. Flick has had a plentiful experience with the use of large doses of strychnine, because, among other things, he notes the influence of this drug upon nutrition. This action is certainly remarkable. I have so often observed this gain in weight that it is a common thing for me to expect the patient to gain in weight if he gets strychnine in ordinarily large doses, such as I have spoken of. I do not know whether Dr. Flick is correct in saying that it acts upon the involuntary muscles of the body, or whether it acts upon the trophic nerves. However, there is strong evidence for believing that strychnine affects the trophic or nutritive nerves of the body and stimulates them, and in this way improves nutrition. I have seen remarkable gain in weight in experimental cases in which nothing was given but strychnine hypodermatically for a number of days. There was nearly always decided gain in weight in the cases that I have observed. I gave it in large doses.

In regard to the cumulative effect, I do not think that I have any observations in regard to the accumulation of the drug in the system. While I believe that strychnine acts like drugs that do accumulate in the system, such as atropine, digitalis, and strophanthus, yet there is a marked difference between the action of strychnine and the drugs mentioned. Strychnine does not have the profound effect upon the circulation that the other drugs have. We know that the cumulative effect of the digitalis is due to the fact that elimination is checked.

I am sorry that I can not agree with Dr. Cohen in regard to the benefit of small doses in many diseases, although I believe that some diseases are more easily influenced by strychnine than are others. I believe, however, that pulmonic and cardiac diseases, such as were only referred to in my paper, are less influenced by strychnine than are many others. It is especially so in asthma, angina pectoris and the other pulmonary and cardiac diseases to which I have referred, for in them it is perfectly useless to give small doses with the idea of cure. You might just as well turn a garden-hose on a Chicago fire as to expect to do much good with small doses in these diseases. I have tried small doses without any benefit.

In regard to the destructive action to which Dr. Cohen has referred, I can hardly believe that strychnine in ordinary physiological doses can have a destructive influence upon the nervous system, although I can see how a large and poisonous dose could have such influence upon the nervous system. Indeed, we well know that atropine, digitalis, alcohol, and many other drugs in common with strychnine have such a disintegrating effect in toxic doses; but to say that in stimulant doses they have the same, or even a similar effect, is very far from the mark. It seems to me to be a confounding of the physiological with the pathological effects of a drug. Although I administer strychnine in large doses, I always remain within the sphere of its stimulant action. In fact, I fail to conceive how any drug which improves the nutritive state of the body can at the same time have a destructive influence on any tissue, except in so far as it may enhance the physiological waste of the body, which in turn is compensated by an increase in its physiological repair.

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ORLEANS PARISH MEDICAL SOCIETY, SEPTEMBER 9, 1893.

Meeting was called to order by Vice President M. M. Lowe. Sixteen members were present.

Dr. E. D. Fenner read a paper on "External urethrotomy, followed by septic arthritis." [See page 256.]

DISCUSSION.

Dr. Chassaignac said that the case was more interesting as a case of septicæmia than of urethrotomy. It must be gratifying to those in charge of the case to know that there is a fair prospect of the patient's recovery, which is a rather unusual termination in cases of general septicæmia. It would be interesting to trace the course of the infection; if this could be done we could know how these complications arise and take measures to prevent them.

Dr. Bloch said that the feature that interested him was the persistence of the sepsis after free drainage had been afforded by the operation. There must have been a focus of infection in the shape of a deposit of pus somewhere. He spoke of a case that Dr. Michinard had shown him in his clinic. The patient had pus-tubes; the knees became the seat of a septic arthritis, and the patient died, as she was too weak to be operated upon.

Dr. McShane recalled a case that he had seen and dressed in Dr. T. G. Richardson's service at the Charity Hospital in 1881. The patient was a negro, aged about 30 years, who had con-



tracted gonorrhœa, followed by septic arthritis of the right knee. The joint was first aspirated, then incised, and drainage tubes inserted; but necrosis set in, and the man eventually died of exhaustion.

Dr. Fenner, referring to Dr. Bloch's remarks, said that he did not see how, in this case, there could have been any purulent focus; there was no room for it.

Dr. Gabert reported a case of abortion of three months. The patient admitted that she had had some sort of a criminal operation performed on her and had also taken some medicine to bring on abortion. She had some pretty severe hæmorrhages, and she sent for him. On examining the uterus through the speculum, he found two wounds in the lips of the organ. He ordered antiseptic vaginal and intra-uterine injections. He thought, from the hæmorrhages, that the uterine contents had been expelled; but, on the eighth day, the ovum came out intact, sac and all. He was surprised at that, since he at first thought that in the attempt at abortion the ovum had been broken up and mutilated. He thought that the hæmorrhage must have come partly from the cavity of the body of the uterus and partly from the lacerated os.

Dr. Scheppegrell reported a case which he regretted to say, was incomplete. He first saw the patient six months ago. She then had some nasal stenosis, which the doctor relieved by operating on the septum. She mentioned, at the time, that she had violent headaches, coming on at intervals of two or three weeks. The pain radiated from the centre of the head to the vertex. During these headaches, her eyes and face were congested. After the headache would last for several days, it would become less intense, and suddenly, while the patient would be stooping forward, there would be a sudden gush of clear, straw-colored inodorous liquid from her nostrils. This discharge would be followed by a complete cessation of all the symptoms.

Feeling that the liquid must come from a well defined cavity and not from an oozing surface, Dr. Scheppegrell washed the antrum of Highmore on both sides, with negative results. He punctured the ethmoidal sinus with the same results; and he passed a trocar into both sphenoidal sinuses, but no liquid was obtained. Instructed by the doctor, the patient collected some of the liquid for microscopic examination. On Monday, September 4, 1893, the liquid gushed forth with its usual rapidity after several days of headache. She caught some of it in her hands and poured it into a bottle which she kept ready. This liquid was examined by Dr. McShane, who found it to contain about 5 per cent. of moist albumen. Under

the microscope it showed a small number of leucocytes and a multitude of pavement epithelial cells. When the liquid was allowed to stand in a conical glass, a rather heavy sediment deposited, which consisted principally of pavement epithelium, the cells of which were arranged singly and in groups. Dr. Scheppegrell said that he was at a loss for a diagnosis of this case, and he laid the facts before the meeting in the hope that some one else might have had some experience that would clear up his case. All of the cavities accessory to the nasal cavity are lined in the columnar ciliated epithelium. He had not yet been able to catheterize the frontal sinus.

Dr. Chassaignac suggested the possibility of hysteria, and means should be tried to ascertain same.

Dr. Scheppegrell said that the character and training of the patient were such as to preclude the possibility of such deception. However, he would arrange matters so as to have the patient watched by a trained nurse, and thus settle beyond all doubt the nasal origin of the liquid.

Dr. Gassoway said that Dr. Scheppegrell's case was unique as far as his reading goes. In regard to Dr. Fenner's case he said that he had never seen a case exactly like it at the Marine Hospital. There were records of twenty urethrotomies with one death from fatty heart and old age. Dr. Fenner's patient may have had gonorrhœa. The Marine Hospital service contains an abundance of such cases. Gonorrhœal rheumatism may occur two or three months after the gonorrhœa is cured. He has seen cases of gleet with stricture that developed gonorrhœal rheumatism. There are different views as to what constitutes gonorrhœal rheumatism. Gonorrhœal cases are numerous. It often happens that a man with gleet will flush out his urethra with urine before presenting himself at the clinic, and no evidence of the disease is seen at the examination. Such cases may afterward develop gonorrhœal rheumatism. In his service it is very unusual to have a temperature of over 38 deg. C. (100 $\frac{2}{5}$  deg. Fahr.) after operations on the urethra.

Dr. Chassaignac did not think that Dr. Gassoway's suggestion of gonorrhœa in Dr. Fenner was well founded. His observations lead him to believe that a case under constant care would not develop the joint complications.

Dr. Gassoway did not mean to say that all cases of rheumatism developing after gonorrhœa are really due to it. Dr. Gassoway also desired to call attention to the great rarity of true typhoid fever in New Orleans. In all of the places in the Mississippi Valley in which he has been stationed in the last five years, he has seen only five cases of undoubted enteric

fever. In Philadelphia, about one-third of all the cases seen at the Marine Hospital were of typhoid fever.

Dr. Gabert had a case of pleuro-pneumonia under treatment in the beginning of summer. The man got well, and then he had an attack of true typhoid fever. He got well again, and then his sister (aged 14) took typhoid fever. When she was convalescing her mother took the disease and died on the ninth day. In the course of four months there were three cases of typhoid fever in one family.

Dr. Bloch thought a great many cases of typhoid fever were masked by the remedies used. He had charge of four wards in the Charity Hospital, where he had a good opportunity for examining fever patients. Good notes of the cases were kept. Several patients and three autopsies were held. These patients had not had any diarrhœa, and yet the intestines showed the characteristic lesions of the disease and even perforation. Death ensued from exhaustion due to the fever.

Dr. Parham had seen a number of cases of so-called simple continued fever. Dr. Archinard had informed him that he had performed autopsies on a number of such cases while he was connected with the pathological department of the Charity Hospital. He found the typical changes in Peyer's patches in a number of such cases. There was no diarrhœa, no parched tongue, no petechiæ. The subject is one of great importance to this community.

Dr. Chassaignac said that if Dr. Gassoway referred to classical typhoid, he certainly had seen very little of it in New Orleans. The disease is regarded as a rarity in the wards of the Charity Hospital. All of the cases that he had seen were persons who had come from other places, where they had taken in the germs of the disease.

Dr. Gassoway said that both of the cases he had seen here had come from St. Louis, Mo. The disease developed while the patients were on the boat.

Dr. Fenner saw two cases in his ward for negro males. They died two or three days after entering the hospital; at the autopsy, the characteristic changes in Peyer's patches were seen. During his two years' service as a resident student in the Charity Hospital, he performed about sixty autopsies; and in all of those he did not see any inflamed Peyer's patches.

Dr. Landfried said that while he was resident student at the Touro Infirmary he saw several cases of undoubted typhoid fever, and a great number of cases of continued fever. He desired to speak on diphtheria. He performed intubation in eight cases; all of them died. His experience with intubation, even in apparently favorable cases, has been such as to make

him feel that it is not a very valuable addition to our means of combating the disease. He was compelled to look for something else, and he has adopted a plan of treatment which has given very gratifying results. He uses peroxide of hydrogen in the following manner: he makes a mixture consisting of Marchand's peroxide of hydrogen 3 parts, water 1 part, and a little bicarbonate of soda (about ten grains to the ounce). He fills a laryngeal syringe with this mixture. Then he passes one index finger down to the arytenoid eminences as a guide, and slides the nozzle of the syringe, which is held in the other hand, down to the end of the fingers. He then quickly squirts the liquid into the vestibule of the larynx, and flushes the larynx and the lower part of the pharynx. This manipulation causes a brief dyspnœa and great distress, but the efforts at coughing thus provoked bring up large chunks of false membrane, and the breathing at once becomes easier. From this on the patient continues to improve. The nourishment of the child is also looked after. After the larynx has been flushed out as above described the patient is able to swallow better.

Dr. Scheppegezell referred to a report on diphtheria recently published in the *NEW ORLEANS MEDICAL AND SURGICAL JOURNAL*, in which it was stated that biniodide of mercury used internally had given excellent results. He himself had used a solution of bichloride sprayed into the larynx. He treated about a dozen cases in this manner and lost three.

Dr. Lowe said that about three years ago he treated six cases of diphtheria in one family. Dr. H. W. Blanc, the then chief sanitary inspector, saw all of the cases as they developed, and pronounced them diphtheria. Dr. Lowe used sprays of bichloride of mercury (1 to 2000), lime water and peroxide of hydrogen in the different cases. They are now all living.

Dr. Bloch said he had used a spray of peroxide in one case. The child, aged 5 years, died. In another case he put lime in a basin and poured water over it and slaked it. The child's head was held over the basin to cause him to inhale the fumes. The child got well. In another case it was necessary to advise tracheotomy, but the parents would not consent. The child grew worse, and the parents permitted the operation, but it was too late, and the child died on the table.

The meeting then adjourned.

AUGUSTUS McSHANE, M. D.

*Secretary.*



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DR. R. MATAS.

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## Editorial Articles.

### THE YELLOW FEVER AT BRUNSWICK, GA.

For several weeks past one of the most prosperous towns of Georgia has been in the throes of an epidemic of yellow fever. To those of us who can remember 1878, the picture of suffering comes very vividly. The stricken city has received evidences of sympathy from all parts of the country, New Orleans doing her share.

When Dr. Branham, M. H. S., died of yellow fever in Brunswick it was hoped that the disease would not spread. The measures adopted by the local health officers were believed to be sufficient to stamp out the disease; but several cases of a fatal kind of fever broke out in the neighborhood of the first case, and the panic created by the first death was followed by a wilder one, the people fleeing as best they could. At this stage the local health officers made a fatal mistake: they did not openly publish the suspicious cases, but, ostrich-like, feared to see yellow fever where yellow fever really was, and thus gave the pest a chance to get a firm foothold in unfortunate Brunswick. In her experience with yellow fever New Orleans has gone through many grades of policy and morality. It will not do for us to lecture our unfortunate sister city on a

failing that in former years attached to our own community, but we are happy to say that the misguided policy of concealment was long ago displaced by one of full and early publication of any cases that could reasonably be regarded as suspicious. We are now enjoying the fruits of that enlightened policy; our long freedom from the disease is the result of an intelligent method of treating infected ships and of good faith kept with other communities.

All of those who could get away from Brunswick did so; those who remained were chiefly people of limited means. The sudden shutting off of communication with the outside world, and the suspension of local industries, brought great suffering to whites and negroes alike. In this emergency the great American heart, which is never appealed to in vain for a worthy object, poured out its sympathy and relieved, in a measure, the distress in the stricken city. The epidemic is growing daily, and it will perhaps be in the middle of November before there will be a frost severe enough to put an end to the yellow fever.

In the meantime the local Board of Health and the officers of the Marine Hospital Service are bending all their energies to the care of the sick and the prevention of the spread of the disease. The mortality reported is very low and would indicate an improvement in the therapeutics of yellow fever since 1878. Dr. R. D. Murray, M. H. S., who is taking a very active part in the management of the epidemic, has had a very extensive acquaintance with the disease and he is one of the best qualified men in the country to handle it. He is ably assisted in his labors by Dr. Chas. Faget, of this city, whose wide experience with yellow fever in 1878, and later in Florida, have made him an expert in the treatment and general care of yellow fever. While we feel deeply for Brunswick in her sorrow, we congratulate her citizens upon having secured the counsel and services of such competent men.

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In this connection we would like to refer to a matter that ought to be brought to the attention of the weather service. The cause of yellow fever is entirely unknown, and some of

the conditions that favor or hinder its development have not been fully made out. It has long been known among the old inhabitants of this city that a certain kind of weather was favorable to the spread of yellow fever; that was called "yellow fever weather." Exactly what constitutes "yellow fever weather," not even the proverbial "oldest inhabitant" can tell us. The limits of temperature at which yellow fever can exist have been pretty well made out. There is in this city a gentleman, Mr. I. H. Stathem, who, although a layman, was often thrown in contact with yellow fever. Being of a scientific turn of mind, he endeavored to ascertain the precise atmospheric conditions under which it was possible for the disease to exist. He studied ozone particularly. His observations were kept up for a number of years, but he had to discontinue them. The fruit of his labors is embodied in a paper of his read before the Louisiana State Medical Society about four years ago, and published in the Transactions.

A volunteer work of that sort, carried on by one individual, can not have the value of a similar work carried on simultaneously at all the weather bureaus in the country. The observers take the barometric readings and the temperature at the same time; and, grouped together, observations on the ozone and other atmospheric conditions might enable us to draw conclusions that might avert a disastrous epidemic.

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## Abstracts, Extracts and Annotations.

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### SURGERY.

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#### THE TREATMENT OF POTT'S DISEASE OF THE SPINE.

By A. B. JUDSON, M. D., Orthopedic Surgeon to the Out-Patient Department of the New York Hospital.

While caries of any part of the vertebral column can not be considered an unimportant affection it is well to recognize the fact that much depends on the region of the spine involved. In the middle dorsal region it is perhaps the most serious trouble, excepting malignant disease, that can attack the

bones of the growing child. In this part of the spinal column the destruction is often extreme and the deformity great, evidently because the affected bones are at the greatest disadvantage mechanically. Lower down the vertebral bodies are so large that they do not lose their relation of mutual support until the loss of substance is very extensive, and above, the vertebral bodies, though small, have less weight to sustain. But in the intermediate portion not only do the bones feel the incessant movements of respiration, but they are also more widely moved in flexion and extension and in lateral curving with rotation than in other parts of the column, and furthermore they are exposed in a peculiar manner to the risk of overstrain from their position in the middle of the column. I think it is in the experience of all of us that in this middle and upper dorsal region Pott's disease continues longest before consolidation takes place.

Here we have a most striking illustration of the fact that the recovery from articular osteitis is postponed by unfavorable mechanical environment. As joints in the upper extremity, free from the mechanical stress attending locomotion, recover easily, while those which, in the lower extremity, bear the heat and burden of the day recover only after prolonged and extensive destruction, so articular osteitis in the cervical region of the spine is easily curable, while in the upper and middle dorsal region relief and repair come only after desperate and prolonged risk.

How can we best assist nature to cure this disease in this difficult part of the skeleton? The same general rules apply here as in the treatment of articular osteitis in the lower extremities. We can not cut short the disease by an operation or by any procedure whatever, but can expect with confidence, and must promote by our best endeavors, the arrest of destruction and the beginning of repair. What then can we do to put the affected vertebræ in their best attitude and to raise the defensive and reparative powers of the system to their highest efficiency? As in articular osteitis occurring elsewhere we desire (1) to relieve the bone of the duty of supporting weight and concussion, and (2) to prevent the affected joint from motion, believing that the arrest of these two functions, weight-bearing and motion, are essential to good treatment. It does not seem wise to keep the patient recumbent for the long period necessary.

In the management of hip disease we put the affected limb to bed, so to speak, while the patient is up and about. But a similar resort in Pott's disease is impossible. Since the patient must be up and to a certain extent active in locomotion, our



best resort, in my opinion, is to take what benefit can be had from the application of a lever making pressure from behind forward in the neighborhood of the posterior projection and counter pressure from before backward at two points, one above and the other below the level of the seat of the disease. In a limited sense this application relieves the diseased joints from the weight of the body, while the patient is up and about, because antero-posterior pressure thus applied transfers a part of the weight and concussion incident to standing and walking from the diseased bodies of the vertebræ to the processes, which remain sound. Having thus (1) removed so far as is practicable injurious pressure from the diseased structures it is obvious that we have also applied the most effective kind of retentive splint for (2) the arrest of motion in the affected joints.

It does not take much practical experience to convince one that efficient pressure applied in this manner is productive of good. It may not at once arrest morbid action and induce cicatrization of the carious bone. For these events we must wait for the natural reaction, but it is not difficult to believe that nature will the more promptly intervene with reparative efforts if our mechanical applications relieve distress and substitute a feeling of strength for weakness and apprehension. A well applied support at once gives a degree of relief which finds plain expression in the face and attitude of the patient. As a matter of fact a feeling of security and comfort is afforded by the use of a corset made from any of the materials in ordinary use. I will not indicate the defects of apparatus of this kind. The inexpensiveness of jackets and the ease with which they can be obtained and applied make them of the greatest service to a vast number of patients who otherwise would have no mechanical support whatever. But when and where it can be done it is necessary to give the patient the benefit of accurately adjusted antero-posterior pressure.

At the best, antero-posterior pressure, no matter how carefully applied, fails to give all the support which is desirable. This is because the leverage is deficient. In the vertebral column there is found no long bony lever, such as is at hand in making a mechanical application for fixing the knee. There is, rather, a succession of irregular bones movable upon each other, which, from the nature of the case, impair the success of any attempt to arrest motion or support the column by pressure from behind forward and counter pressure from before backward, because the pressure from before backward will, a part of it at least, be expended in bending backward portions of the vertebral column above and below the projection. The

force thus employed is, however, by no means wasted, as it secures an ultimate improvement in the shape of the trunk, which is often characteristic of patients who have been thus treated.

The apparatus needed is essentially simple, consisting of two parallel uprights united below by a pelvic band and diverging at their upper ends at the base of the neck, and curving over the tops of the shoulders. Pressure from behind forward is made by two pads attached to the uprights at the level of the projection and applied a short distance from the median line on each side. Counter pressure from before backward is made below by a strap passing from one end of the pelvic band to the other in front of the pelvis and above by straps, one on each side, passing from the upper end of the upright through the axilla to be buckled to the upright. The most important feature of a brace constructed to carry out these views is the use of mild steel for all metal parts. The use of this material puts in the hand of the surgeon the power to modify the degree and direction of pressure to the changing shape and to meet the increasing tolerance of the skin to pressure. The reaction of the skin should receive special and constant attention and gentle and gradually increasing pressure should be made till the limit of comfortable tolerance is reached.

By patient attention to details apparatus thus designed may with certainty be made comfortable and efficient. The diffused support furnished by a jacket is often secured by the addition to the simple lever described above of aprons and other pieces which add to the feeling of stability and security without interfering with the chief function of the apparatus, which is to make antero-posterior pressure. One hardly knows where to begin and where to end in the consideration of the details which demand attention in practice of this kind. I will close by saying that cheapness and cleanliness may be promoted by leaving the steel parts of this brace unpolished and covering them with a single layer of adhesive plaster, and then with strips of canton flannel or silk cut bias and renewed without much trouble as often as may be desired.

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#### A VERY SIMPLE TREATMENT OF HÆMOPTYSIS AND EPISTAXIS.

Some time ago Professor Gros, of Algiers, had drawn attention that blood-spitting can be easily arrested by applying pieces of ice to the scrotum in men, and the major labia in women. His statements were fully confirmed by Dr. Darenberg (*La France Médicale*, 1892), who found further that in

the case of recurrence of the hæmorrhage it was useful to repeat the application twice daily, leaving ice in contact with the parts for about five minutes on each occasion.

Referring to the communication, Dr. Schrieber, of Moscow, points out (*Novosti Terapii*, Nos. 25 and 26, 1893), that an old Russian book—published by an anonymous physician in 1827, and bearing the title, “*Rukovodstvo K, Letchenyü Prostymi Sredstvami*,” (Hand-book of Treatment of Diseases by Simple Means), the application of cold to the external genitals is recommended as the best method for controlling a nasal bleeding. “The patient must immerse his or her genitals in cold water and keep them therein for a short while.”

In an editorial note in the *Vratch*, No. 31, 1893, p. 876, Professor V. A. Manassein suggests to make an experimental inquiry into the physiological effects of the procedure (which acts probably in a reflex way); in other words, the persons experimented upon should be subjected to a careful examination by a plethysmograph, sphymograph sphygmomanometer, laryngoscope ophthalmoscope, etc.—*St. Louis Medical and Surgical Journal*.

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#### PROPER SURGICAL TREATMENT OF EMPYEMA.

Dr. Carl Beck (*Medical Record*), in a paper read before the Pan-American Congress, discussed the relative value in empyema of the three methods of treatment used—aspiration, incision, and resection. From his personal experience, together with statistics collected, he concludes that resection is the method for obtaining the best recovery. Resection, he found was gaining ground daily among surgeons. Some surgeons have been in the habit of making an incision first and then using drainage for a time, and, if no good results were obtained, following it up with resection; this causes unnecessary delay, and in many cases makes the prognosis bad.

The prognosis of any case depends entirely upon the early diagnosis made by the practitioner, and the method of treatment adopted by him. In using a hypodermatic needle for diagnostic purposes sometimes the pus will be too thick to flow through the needle, and in case it fails to appear, if you will unscrew the syringe, leaving the needle inserted, and then push a wire through, upon withdrawing the wire you will find the end covered with pus.

*Aspiration*.—Absorption can only take place under the most exceptionally favorable circumstances, therefore in the large majority of cases treatment by aspiration alone only drags the case along until the patient's vitality sinks too low for re-

section to save him ; and it is from just such cases as these that the opponents of resection gather their statistics.

*Incision.*—This method of treatment will permit of drainage, but there are always adhering lumps to be found upon the surface of the pleura which no amount of drainage or washing can remove. They must be picked off with the finger.

*Resection* is by far the best of all methods. We are then enabled to sweep the finger around inside, opening up any pockets, and tear off all adhering lumps, and thoroughly cleanse and drain the cavity. In making a resection, if the operator is careful to preserve the periosteum, the rib will grow again. After making a resection I do not immediately insert a drainage tube. If a tube is inserted at once, the movements of respiration will cause the tube to irritate the surfaces, and more or less hæmorrhage will result. I usually wait three days before inserting it.

In conclusion, I will say that resection is safe, clean and easy to perform, and gives by far the best results. I do not, however, approve of the method of resection recently recommended in Germany.

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#### THE TREATMENT OF HEMORRHOIDS—CHRONIC INTES- TINAL CATARRH.

By C. E. KELSEY, M. D., Professor of Diseases of the Rectum at the New York Post-Graduate Medical School and Hospital, etc.

The patient on whom we are going to operate to-day is a man who has suffered from hemorrhoids for years and has never done anything for them until he has been brought into his present condition. The question comes up: Is it safe to operate on a man with inflamed piles? I think it is, for there is no reason, as far as I know, why you should not operate as in a normal condition.

Of all the operative procedures known to the profession for the cure of hemorrhoids, it is not worth our while to refer to more than three, viz.: ligature, injections and the clamp. The ligature owes its present prominence to Allingham, and a large experience with this plan of operation has led me to search for one just as safe and as efficient, but at the same time free from some of the objections that pertain to the use of the ligature. One of these objections is the great pain the patient always suffers for the first week or ten days after the operation. This is due, I believe, to the fact that the nerve and artery are compressed by the ligature. To overcome this I have been forced to keep the patient constantly under the use of morphine till the ligature comes away.



Another objection is the necessity for the frequent passage of the catheter for several days after the operation; and a third is the large amount of blood lost during the operation and the necessity for leaving a considerable quantity of lint in the rectum on account of the oozing of blood. It also requires a great length of time before the patients are able to return to business.

I employed the treatment of hæmorrhoids by injection of carbolic acid for about a year or so almost exclusively, and was pleased with the result obtained, but a succession of bad cases led me to modify my views of its value, and I now use it only occasionally in cases where radical measures are contra-indicated.

The third method, or that by the use of the clamp, is the one I generally employ, inasmuch as it is subject to none of the objections I have mentioned when referring to the employment of the ligature. No dressing is required after the clamp operation, except a pad of oiled lint, and a T-bandage applied for a few minutes to arrest the oozing from the preliminary incisions of the skin. The parts need not be examined for ten days, if the patient feels well, and all that is required is cleanliness.

The essential features of the operation are to seize the part that is to be removed, apply the clamp to its base, cut it off with a scissors, and apply the cautery to the stump. The operation is performed in the following way: The patient is placed under ether and the sphincter dilated. The tumors are seized and removed one by one. The tumor is seized with a forceps, and drawn out of the anus, while the base at the junction of the skin and mucous membrane is divided, as in the ligature operation, and the clamp applied to what remains of the pedicle in the sulcus thus formed, the tumor is then cut off with scissors and the cautery applied to the stump.

After the operation the bowels should not be moved for thirty-six hours, when they should be stimulated to action by a mild laxative. When the time comes for the bowels to move, an enema of oil should be thrown up the rectum, so as to secure a complete emptying of the bowel on the second day.

I am often asked if there is any danger from hæmorrhage following this operation? If the procedure is properly done, it is as safe and free from secondary hæmorrhage as any I know of in the whole domain of surgery.

The second case is that of a physician who has been troubled with constipation for a great many years. The constipation has been constantly growing worse, until, finally, the bowels never moved without a laxative of some kind. He has

two symptoms of stricture of the rectum, tape-like stools and goat-like stools. His normal weight is 161 pounds, which was reduced to 135 pounds.

He made a diagnosis of the stricture of the rectum, because he could feel a perfectly distinct band in the rectum with his index finger. I put him on the table and passed my index finger up the rectum. I found it a perfectly healthy rectum, with no stricture as the doctor complained of. The bowel was filled with a large, hard fecal mass. I gave him an injection and washed out this mass. I then introduced my long bougie, shaped exactly like Van Buren's urethral sound with a bulbous end, and without the slightest difficulty I passed up the sigmoid flexure for about fourteen inches.

Now, this is a perfectly typical case of just one affection, and an affection for the cure of which patients come to my office every month, with the same diagnosis as the doctor had made for his trouble, viz.: stricture of the rectum. A movement of the bowels can not be had without artificial means, and as the case goes on for a year or two, the difficulty of securing a passage goes on increasing, and the argument that comes to their mind is that the stricture is becoming tighter. The fact of the matter is that a person may have these symptoms all his life without having anything in the history upon which to base a diagnosis of stricture. Listen to what I am telling you, because I get more money, more credit and more reputation as a diagnostician in the treatment of this affection than belongs to me. I know of no form of stricture of the rectum you are at all likely to meet with that is not a gradual process attended with destruction of the mucous membrane; and destruction of the mucous membrane before the formation of a stricture will manifest itself in ulceration of the rectum. I will relate a case in point which presents some very remarkable features:

A lady, aged 37, came to me with the statement that from the time she was four years old she never had a movement without the aid of medicine. She was passing blood and slime, and there was some intestinal obstruction—a large fecal obstruction with all the symptoms of stricture of the rectum. I examined her and the examination was negative. I could not pass a bougie of any kind. I sent her home and told her to take nothing but milk for the next forty-eight hours, and come to see me again. She came on the second day, stating that she had had a large stool. Then I was able to pass a large bougie. She has not taken a laxative from that day to this, but simply a milk diet.

The diagnosis of the case of this doctor is one of chronic intestinal catarrh, and if you are going to cure this trouble yo

will do it by milk diet. Let the patients take two quarts and a pint a day, and let the bowels absolutely alone, and at the end of two or three days they will have a natural passage without medicine. I have cured dozens of such cases by this simple method. This patient will get well with the milk diet, and after a time he can be put on the use of meat, fresh vegetables, with very little bread.—*International Journal of Surgery.*

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## MEDICINE.

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### PASSAGE OF A THERMOMETER THROUGH THE ALIMENTARY CANAL.

The swallowing of a clinical thermometer by an insane patient at Besancon recently was not without its usefulness. The thermometer, a self-registering one, was entirely of glass and 113 mm. long. No disturbance was noticed, and nine days later it was passed at the anus. The scale registered a maximum temperature, of 38.7 deg. centigrade, but a subsequent verification of the instrument reduced this to 38.1 deg. The axillary temperature which had been taken twice a day during the passage of the thermometer, was never higher than 37.2 deg.

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### CONCERNING TYPHOID FEVER.

Dr. Victor C. Vaughan (*Medical News*) says: There may be such a thing as typho-malarial fever, but no man has ever, as yet, demonstrated its existence. To-day there are three theories concerning the causation of typhoid fever: 1. The German theory, that typhoid is caused by a certain germ; that it is a specific disease, the same as small-pox. One of the definite characteristics of the germ is that it will grow upon potato, forming an invisible growth. The Koch-Eberth germ is the only germ capable of causing typhoid fever. 2. Another theory we may designate as the French theory, which is that the cause is a modified form of the bacillus *coli communis*, which sometimes acquires extraordinary virulence. If the French theory is correct, the pollution of water with any fecal matter may cause typhoid fever. If the German theory is correct, it would be safe to drink all the fecal matter you wish, provided it comes from healthy persons. 3. There is another theory, and that is that typhoid fever may be caused by any

one of a number of germs, which are closely related to one another, but which are not connected either morphologically or physiologically, and consequently we can not expect the symptoms to be the same in all cases.

For the last twelve or fifteen years I have, on account of certain official positions, investigated every outbreak of typhoid in the State of Michigan, and for the last six or seven years I have accompanied these with a bacteriological examination, both of the drinking water supply and, for the last two or three years, of the spleens of the persons dead from typhoid fever. While I have seen thousands of cases of typhoid fever, I have yet to see a case of *typical* typhoid fever, as described in the text-books, where the temperature is graded day after day. Of course, in many of the cases the temperature is interrupted by the treatment. Further, I have never, as yet, found in the drinking water, or in the spleen of a person dead from typhoid fever, a germ identical with the supposed specific germ. Occasionally I have found germs which form an invisible growth on potato, but they have been different from the Eberth germ.

In a recent outbreak at Ironbrook I inoculated beef-tea, and after twenty-four hours injected it into animals. The germ was then found in the spleen, kidney and liver. I directed sent to me the spleens of all persons dead from typhoid fever, and in these, which were quite a number, I found the same germs as in the water. I think this pretty positive proof that the germ caused the disease. I think we have a group of causes, just as in the vegetable world we have a number of plants which produce poison, varying in virulence according to the conditions in which the plant grows. Tobacco grown upon different kinds of soil will show changes. Why not germs, which pass through a number of generations in a short time? A woman living in the country does not go from home, but dies of typhoid fever. A post-mortem is held, and it is found to be true typhoid fever. Some contend that such cases are caused by infection carried by a tramp with walking typhoid fever, who, visiting the various water places, infects the neighborhood. There are annually 50,000 deaths in this country of typhoid fever and 500,000 sick with it. This shows that the germs must be widely distributed. I am sure that healthy individuals aid in distributing the disease.

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#### CLINICAL STUDY OF PROLONGED REMITTENT FEVER.

Dr. David Lobo, of Venezuela (*Medical News*), in a paper read before the recent Pan-American Congress, said it was his purpose to describe a certain form of malarial infec-



tion which, he believed, had received very little attention from standard writers on tropical diseases. The description was based on clinics exclusively, referring to the various individual conditions, and was intended to impart his personal views in regard to the malady as it occurs in Caracas.

*Etiology.*—The aspect and extraordinary course of the pyrexia are probably due to corresponding variations in the power and quality of Laveran's corpuscles, to over-poisoning of the blood, or to some distinct element operating simultaneously with the paludal germ.

Variations in temperature do not respond to any fixed law of recurrence. The temperature generally ranges from 38.5 to 40.5 deg C., and drops or rises unexpectedly. Remissions take place at any moment of the day. Intermissions may recur, but they should never be trusted. *Chills* and *sweating* may be observed, but never as definite stages of the fever.

*Special Symptoms.*—Circulation and respiration do not exhibit any deviations, except those induced by the reaction of the organism under the influence of abnormal heat. Divergencies between pulse or respiration, and temperature, should be looked to and carefully treated.

The fever frequently runs its entire course free from complications. There are serious incidents generally; their gravity depends on the importance of the organ attacked.

It is obvious that the whole clinical history of the disease may be condensed into two prominent facts—viz., an irregular temperature and a long, weary course.

*Diagnosis.*—The main points by which long remittent fever can be discriminated from other malarial forms are its uncommon course, its irregular temperature, the absence of marked stages, of hepatic or splenic troubles, and its resistance to quinine.

Between it and typhoid there is no possible confusion; typhoid is cyclic in its career, is accompanied by intestinal lesions, presents peculiar eruptions, and is extremely rare in Caracas.

The so called typho-malarial fever exhibits typhoid symptoms, which are never present in ordinary remittent.

Vomiting of black matter, and albuminuria, are perfectly distinctive of yellow fever. The course of this never exceeds ten days.

Pernicious fevers are sufficiently distinguished by their short duration and characteristic aspect.

When complicating or intercurring processes do not occur, a fatal issue is seldom to be feared. High temperature, extreme weakness, frequent vomiting, copious sweating, and diarrhœa, generally impart a serious character to the disease.

Prognosis is entirely different when we have to deal with organic complications.

*Complications.*—The fever may give rise to a special inflammation of the lung, to which the term pseudo-pneumonia can be properly assigned.

Among nervous complications, none is so terrible as cerebral congestion. It may assume a convulsive or a comatose form, but the latter is more common. The convulsive form is probably due to meningeal congestion. The issue is fatal in nine cases out of ten.

Acute entero-colitis, dysentery, and choleriform diarrhœa are fearful complications, as they often lead to a fatal result. Hæmorrhage and acute peritonitis are apt to occur as secondary phenomena, subsequently to ulceration of the digestive duct. The kidneys generally undergo no injury at all. Urine is never albuminous.

*Treatment.*—Long remittent fever is very slowly influenced by quinine. There are cases in which the drug is absolutely useless, whether it be given in large or small doses. If administered to excess, it is apt to cause irritation of the stomach, vomiting, diarrhœa, heart depression, and collapse. The view that quinine will prevent complications is merely hypothetical.

Aconite, arsenic, and carbolic acid may be resorted to in protracted cases. I place very little confidence in their action.

Warburg's fever tincture is a valuable remedy. Salicylate of sodium, analgesin, acetanilid, and similar agents will surely act on temperature, but their effect should be carefully watched.

Tonics should be freely ordered.

Chlorate, iodide, and potassium bromide are indicated in very chronic cases.

Cool baths or lotions are an innocent and efficient means of lowering the temperature. They must not be spared.

A proper diet should be prescribed from the first, including good wine and diluted brandy. Complications call for a special treatment, entirely dependent upon the nature of each case.

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#### HEMMETER (J. C.) ON THE SIGNIFICANCE OF PHAGOCYTOSIS—CONCLUSIONS.

1. In Hess' experiments, on injection of anthrax bacilli in the lymph-sac of the frog, a large quantity of bacilli and spores must necessarily be carried directly into the blood-streams, and could not possibly be taken up by leucocytes, which are

shown not to be present in sufficient numbers to destroy the bacilli and spores.

2. Sanarelli has proven a germicidal action of anthrax bacilli and spores to belong to the cell-free lymph of the dorsal lymph-sac inside and outside the sac.

3. Leucocytes do not accumulate or migrate to inflamed areas because they are attracted by bacteria, since sterile inflammations and inflammations produced aseptically by substances having a negative chemotaxis abound in leucocytes.

4. Certain bacteria even exert a negative chemotaxis—*i. e.*, repelling leucocytes.

5. Mitigated cultures produce a greater immigration of leucocytes than do virulent cultures.

6. Leucocytes seem to migrate to and accumulate in areas of inflammation for three main reasons:

*a.* A physical reason, as pointed out by Weigert, Schlawesky and Cohnheim, which is to this effect—the rate of the circulation being much slowed, and arterial pressure raised, the leucocytes, by their physical properties, stick to the sides of the vessel, the walls of which being pathologically altered, they gain exit by their own amœboid movements, or, according to Cohnheim, by a physical process of filtration.

*b.* The second reason, a chemo-pathological one, is derived from the experiments of Buchner, showing that necrobiosis always attracts leucocytes; the products of tissue necrosis, whether bacteriological or not, attract them. Buchner has isolated from the bacteria and from the necrotic tissues chemical products that exert powerful positive chemotaxis.

*c.* The third reason, a morphological and embryological one, is founded on the histogenetic relations of the leucocytes to the undifferentiated cells of the mesoblast, which alone have made up the entire embryo. The leucocytes are floating embryonic cells with a latent capacity for further development; the positive chemotaxis that destroyed tissue has for them may be partly explained by their function to aid in tissue reconstruction.

7. In the light of recent observations it is correct to assume that just as certain chemical substances present in the bacteria attract or repel leucocytes, so also certain chemical substances present in the cells attract or repel bacteria. This view is supported by many examples of certain cells and tissues being loaded with the specific bacteria, in various diseases.

8. This being the case, it is justifiable to assume that the tissue-fluids, being inimical to the existence of bacteria, find in the cells some attraction, some chemical substance which suits

them, hence the cells are not the enemies of the bacteria but their place of refuge. In many infectious diseases it has been shown that leucocytes and similar cells are the places where the bacteria grow, and these cells are ultimately destroyed by them. The cells succumb to the bacteria, not the bacteria to the cells.

9. The explanation of immunity is to be sought in properties of the cell-free blood-plasma. The blood-plasma of animals immune against a certain disease, injected into a non-immune animal suffering from the same disease, arrests the progress of this disease. The blood of dogs made immune against tetanus possesses a powerful antitoxic action against tetanus. Tetanus in human beings has been cured by injection of tetanus antitoxin.

10. Buchner holds that the first and decisive inimical influence on the infective microbes in a refractory animal and in living tissues is due to the chemical action of the tissue juices; this precedes the taking up of microbes by the leucocytes; this latter phenomenon is dependent on the former, and without the former primary process phagocytosis is impossible.—*N. Y. Medical Record*, July 22, 1893.

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#### COCAINE.

“There is hardly any alkaloid compound which in commerce is found in more varieties of purity than cocaine, and none which is more important to obtain pure in order to assure definite unvarying physiological action without secondary effects. \* \* \* It gives me pleasure to place on record the fact that the cocaine preparations, and especially the Hydrochlorate of Cocaine of Messrs. C. F. Boettlinger & Soehne, of Waldhof, near Mannheim, on which Dr. F.W. Passmore and myself have conducted a series of examinations, have been found free from all impurities to which all organic compounds are liable; they can be confidently relied upon and answer all the tests of the pharmacopœias. \* \* \* In the foregoing brief account of the chemistry and pharmacology of the more important coca alkaloids the advantages that have accrued from systematic investigation of these bases are readily recognized. \* \* \* It is only by means of patient investigation pursued in the unwearying spirit of the scientific method that the cocaine manufacturer has been able to attain the high standard of purity reached by the preparations we have reported upon.—*H. Helbing, F. C. S., in Pharm. Record*, June, 1893.



## THE PREVENTION OF TUBERCULOSIS IN ONTARIO.\*

By E. HERBERT ADAMS, M. D., TORONTO. Physician to St. John's Dispensary, The Nursing-at-Home Mission, The Yorkville Dispensary, etc.

During the last few years no disease has received so much attention nor been productive of so much discussion as tuberculosis. When Robert Kock in 1890 announced to the world the marvelous effects produced by tuberculin many physicians and consumptives made veritable fools of themselves in their eagerness to obtain an early supply of the remedy. The bubble has burst. Many of the patients who were among the first to receive injections are dead; others are living in spite of the lymph; while a third and smaller class have perhaps received some benefit from a judicious use of tuberculin along with climatic and other treatment, and are apparently cured.

It was indeed a wonderful remedy in its selective and specific action on tubercular affections, and, despite the ban it is under at present, may yet in an improved form fill a more or less important place in the materia medica of the future.

Be that as it may, it is certain that this much-vaunted and much-labeled remedy did much to awaken original study and investigation into the nature, cause and cure of this dread disease, which can not but be productive of great good in the near future.

The medical magazines and the secular press have been teeming with literature on this subject. For some time past, almost every fresh medical journal has had a description of some new and seductive remedy for tuberculosis. Many of these are more or less useful, while others are utterly useless, and often positively harmful.

After a careful and practical study of the results and possibilities of the better class of these remedies, my conclusions are that pulmonary tuberculosis is curable in a large percentage of cases in the earlier stages of the disease, and not infrequently in the more advanced stages; but that as the disease is undoubtedly contagious, and as the source of the contagion is capable of being isolated and destroyed with comparatively little inconvenience to the individual or expense to the State, that preventive measures are of primary and not secondary importance to medicinal treatment. And it is with a view of advocating a systematic and feasible method of prevention that this paper is written.

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\*Read before the Ontario Medical Association.

## PREVALENCE OF THE DISEASE.

It is safe to say that no other disease, no form of accident, no civil or other war, has produced so much suffering or caused so many deaths as tuberculosis. During the twenty-five years ending 1886, the average annual total deaths from consumption in England were 50,000. Other tuberculous affections caused 17,700 deaths, making in all a total yearly death rate of 67,700.

In the United States in 1880 the deaths from this disease, estimated from the census returns, were 150,000.

Baer states that the tubercular death rate of the whole world is 15 per cent., and that in prisons it ranges from 40 to 50 per cent. Between the ages of 20 to 40, it is estimated that from one-half to one-third of all deaths are due to tuberculosis.

From the end of 1880 to the end of 1890, there were in Ontario 24,437 deaths from consumption. This does not include deaths from other than the pulmonary form of the disease, and shows that there were as many deaths from consumption alone in Ontario in ten years as from scarlet fever, measles, small-pox, whooping-cough, diphtheria, croup and typhoid fever combined. And yet the death rate is not the only point to consider; for the duration of illness, and consequently suffering, is greater in this disease than in most other diseases.

Senn, of Chicago, says that most of the large hospitals contain 25 to 50 per cent. of patients afflicted with this disease, and that a very large percentage of surgical operations are due to tuberculosis.

Konig states that in surgical clinics the surgeon will have one hundred cases of tuberculosis of the joints to deal with to one of the other classes of inflammation, such as rheumatic, gonorrheal, syphilitic, or suppurative.

From a study of the hospital reports of the Sick Children's Hospital, Toronto, for the ten years ending 1890, I found that over 34 per cent. of all diseases for which patients were admitted into the hospital during that time were of a tubercular nature.

As a test to prove that this percentage was appropriately correct, Dr. George Clingen, the house surgeon, made a careful and thorough examination of all the cases admitted during the year he was house surgeon, and found that 25½ per cent. of all the patients admitted into the hospital that year were suffering from some form of tubercular disease. And so we may consider that from one-quarter to one-third of all the patients that have ever been admitted into the hospital are suffering from some form of tuberculosis.

From the foregoing statement a fair idea can be obtained

of the immense ravages of the disease, and the consequent suffering and loss of life and of wealth to the nation.

Nor is the disease confined alone to humanity. The cow, and the pig, and other animals are also victims of the scourge.

Toussaint, in 1888, gave the percentage of tuberculous cattle as 6 per cent. Bitter states that he believes that at least 10 per cent. of dairy cattle are tuberculous in cities and their environs. Of all the cattle slaughtered in Berlin in 1890, 4.5 per cent. were tubercular. In Saxony, in 1889, of 34,975 cattle inspected, 3,986, or 11.4 per cent., were tubercular. The percentage varied in localities from 1.1 to 15.8 per cent. Veterinary surgeons tell me that they know several different dairies around Toronto in which there are tubercular cattle, and in one herd most of the animals are affected. (This herd has since been isolated by the Provincial Board of Health.) It is a startling statement, but, nevertheless, a highly probable one, that about one-sixth of the cattle supplying milk to Toronto are tubercular. This is a source of danger, especially to young children, for the bacillus tuberculosis is present in such milk, and is undoubtedly, in some cases, at least, a cause of intestinal and other forms of tuberculosis.

Sufficient has been said to show the prevalence of this dread disease. Not that it is more common in Ontario than elsewhere. In fact, the death rate is much less here than in many countries and states; but the loss of life and suffering here are sufficiently alarming—for there are few families but have had some relative or near friend die of this disease—to make us all united in the desire to spare neither money nor labor to eradicate the disease, if such is possible.

#### THE CONTAGIOUS NATURE OF TUBERCULOSIS.

The overwhelming evidences which, during the last decade, have been adduced in favor of the bacillus tuberculosis being the direct exciting cause of tuberculosis have silenced the objections of almost all conscientious scientific doubters. Among old school physicians and others unversed in modern pathological methods of investigation, there are still many strong opponents to this doctrine.

These Prof. Tyndall ("Origin, Proagation and Prevention of Phthisis," *Fortnightly Review*, September, 1891,) defines as "a number of loud-tongued sentimentalists who, in view of the researches they oppose and the fatal effects of their opposition, might be fairly described as a crew of well-meaning homicides."

Before such a scientific gathering of medical men as this, and in a country where the standard of medical education is so



excellent, it will hardly be necessary to do more than briefly review the data upon which we base our knowledge of the contagious nature of tuberculosis.

Our knowledge on this subject is comparatively modern, though more than a century ago there were many believers in the contagion theory. For sixty-six years, from 1782 to 1848, in Naples, rigorous though somewhat crude laws were enacted for the prevention of consumption on the theory of its contagious nature, and Dr. Lawrence F. Flick, who has carefully studied the condition of Italy before and after the enactment of these laws, states: "It will not be overstepping the mark to place the mortality rate from tuberculosis for the Kingdom of Naples and Italy for 1782 at 10 per 1000 living. In 1887 the mortality rate from all tubercular affections for all Italy was 1.29 per living 1000. Expressed in figures, the reduction in mortality from tuberculosis in Italy since 1782 ranges from 60 to 90 per cent.

Villemin, in 1865, was about the first to produce tuberculosis in rabbits by inoculating them with tuberculous material; but it remained for Robert Koch, in 1882, to demonstrate that the true cause of tuberculosis of all kinds was the tubercle bacillus ("Die Ätiologie der Tuberculose," *Berlin Klin. Wochenschrift*, 1882, No. 15). He showed the bacillus to be present in all forms of tuberculosis, and obtaining pure cultures of the bacillus proved that artificial tuberculosis could be produced in animals by inoculation.

His observations have since been abundantly verified by numerous other observers, and at the present time all reputable medical colleges teach their students how to stain, mount and examine under the microscope sputa or diseased tissues suspected of containing the bacillus tuberculosis. And there is no hesitation on my part in saying that the medical student who is not able to make such examinations successfully should not be allowed to graduate from any Canadian medical college; and also that the general practitioner who does not use this means of diagnosis in consumption is omitting one of the most important elements for the correct and early diagnosis of the disease, and without which he can not do full justice to his patient.

We know, then, that this peculiar bacillus, which is definite in form and in its susceptibility to certain staining materials, is present in every form of tuberculosis, no matter what organ of the body is affected, and there are few tissues of the body but have been implicated in this disease. We know that this disease is identical in man, the monkey, the cow, the horse, the pig, the rabbit, etc., and that without the presence of this ba-



cillus there is no true tuberculosis. We know also that by inhalation and inoculation of pure cultures of these germs, the same disease can be produced in animals.

Senn ("Surgical Bacteriology," 1889) gives an excellent résumé of results achieved by experimental inoculation in animals, and mentions many cases of inoculation in surgical cases in man after contact with tuberculous material.

Abundant clinical evidence shows that where these germs most abound there other cases of tuberculosis, both of man and animals, most frequently occur. Many instances are recorded in medical literature of several or all the members of a previously healthy family being carried off with the disease after moving into a house formerly occupied by a victim of tuberculosis. You have all doubtless come across many such cases in your practice; though, on account of the slow and insidious course of the disease and the varying length of time it may take to manifest itself, it is very difficult usually to ascribe the exact source of the contagion.

A case is recorded in Paris where, in the course of eleven years, fifteen out of twenty-three clerks employed in an office died of tuberculosis. Cornet showed that 62.8 per cent. of the deaths among the religious orders for the care of the sick in Germany were due to tuberculosis. Flick's study of the death rate for twenty-five years from tuberculosis in the fifth ward of Philadelphia showed that many of the houses had six to eight deaths, and that over 33 per cent. of the houses where deaths occurred from consumption had more than one case. Cornet has published some statistics on the mortality from phthisis in Prussian prisons. During fifteen years the mortality among males was 45.82 per cent. of all deaths. Confinement, bad ventilation and lighting, together with the presence of the bacillus tuberculosis in the cells, due to improper cleansing of the compartments after the removal of former consumptive occupants, were the probable causes of the great mortality from consumption.

I have stated that the bacillus tuberculosis is the exciting cause of the disease, but there are certain other contributory and predisposing conditions which are also necessary before these germs can manifest their pathological effects. Among these are hereditary and acquired predisposition, bad drainage, bad ventilation and heating, bad sanitation of all kinds, overwork and any debilitating influence whatsoever, and I do not wish to belittle in the slightest manner the great influence such conditions have in the production of the tuberculosis, but merely to emphasize the fact that *without the presence of the bacillus tuberculosis these debilitating influences will not produce consumption or any other form of tuberculosis.*

Heredity has hitherto been considered the chief of these predisposing causes, and we can not deny that it has considerable influence in the production of the disease, though, undoubtedly, cases ascribed to heredity are due to direct personal contagion, and the infection of previously healthy members of the family long after birth, and not due to any hereditary influence whatsoever.

The great source of infection is, then, the inhalation of the dried expectorations of tubercular patients, the ingestion of tuberculous meat and milk from animals affected with the disease, and by the direct inoculation of tuberculous material into the blood through a wounded or abraded surface.

The first is by all means the greater source of danger, as hitherto little has been done toward destroying the bacilli which are so numerous in the expectoration of tubercular patients. The danger of infection, though at present almost universal, is much greater in the localities where the consumptives reside. The bacilli and their spores have considerable tenacity for life in the dried state, and exist for considerable periods of time after expulsion from their former host. Cornet and others have repeatedly shown the presence of these bacilli in the dust taken from the rooms and surroundings of tubercular patients, and by inoculation of animals with cultures taken from such dust have produced tuberculosis in these animals, which resulted in their death.

#### METHODS OF PREVENTION.

And now we will consider what measures of prevention are necessary and practicable for lessening this great scourge.

In the first place, the reporting of all cases of tuberculosis to the health department should be made compulsory for physicians, householders and employers. By this means the responsibility would be with the health officer to see that proper methods for the isolation and destruction of the sputa were attended to, and that the surroundings of the patient were in a sanitary condition, and the patient not a source of contagion to others. These matters, in the better class of consumptives, are, as a rule, fairly well attended to on the recommendation of the family physician, but among the poorer classes these conditions are often much neglected. Free microscopical examination of the sputa of the supposed phthisical patients should be made by the health department at the request of any physician, as many physicians are unable to make such examinations themselves.

By means of suitable pamphlets, distributed by the health department, the public should be educated to the fact that the

expectoration of every patient in the advanced stages of the disease is a source of contagion to others unless such expectoration is destroyed, and that such patients should never expectorate on the floor or in a handkerchief, but always in a sputum cup or some other special receptacle. Other useful hygienic information in reference to the disease should be inculcated in the same manner.

Tubercular mothers and wet nurses should cease to nurse infants, as their milk is a source of contagion.

The public should be secured from danger from tubercular milk or meat by means of a rigid and systematic inspection of cattle, and specially qualified inspectors should be detailed for this work. The notification of the health authorities by owners of infected animals should be made compulsory.

All tuberculous animals should be condemned and killed after having been valued and paid for by the government.

Railroad and street car companies should furnish receptacles for sputa containing water, or a germicide, in their cars and stations.

There should be careful cleansing and disinfection of the floors and walls of rooms after removal, by death or otherwise, of a consumptive patient.

In prisons and asylums, pulmonary tuberculosis in any of the inmates should be recognized as soon as possible by examination upon entering, and at frequent intervals. Such tubercular inmates should be separated from others, and their departments cleansed and disinfected after their removal. In such cases the use of sputum cups and cuspidors should be enforced, and their employment in outdoor work, as far as possible, should be urged.

The prevention of consumption would be greatly aided by the erection of special hospitals or sanatoria for the consumptive poor. Municipal and government aid should be given to these institutions. For the poor, the ignorant, the careless and the friendless, and for all consumptives in whose homes or boarding houses proper sanitary measures could not be used, such places would be a great boon, not only to themselves, but to others to whom they would otherwise be a constant source of worry as well as of contagion.

My own personal experience as a resident physician in a sanitarium for consumptives justifies me in saying that better results can be obtained there in many cases than elsewhere, and, under proper conditions, the depressing influence of segregation is not to be felt.—*Canadian Practitioner*.



## THE TREATMENT OF CHOLERA IN INDIA.

By F. C. NICHOLSON, M. D., Bengal Medical Service.

As soon as a person shows the premonitory symptoms of cholera, by having one or two large watery motions passed with little or no pain, and begins to vomit, it is best to put him under the influence of opium at once. All physicians who have had much to do with the treatment of cholera in India are agreed in this; and it is noteworthy that many so-called cholera "specifics," which have from time to time been popular, contain opium in some form.

Dr. John Murray's cholera pills, which are largely used in India to this day, are composed of opium, black pepper, and asafoetida, and there is no doubt that they are very useful in the early stages of cholera. I have an objection to giving opium in mixtures or in pills in the first stage of cholera, as it is very seldom that such medicines are retained, and therefore the opium has no chance of exercising its physiological effect. I find it is advisable to administer the opium or morphine hypodermically, as in this way its good effect is more certainly obtained. Moreover, it can be administered in this manner up to a later period in the progress of the disease. In my practice I give morphine to a cholera patient, if he has not before been brought under its influence, so long as the pulse can be counted.

I find it is advisable in giving morphine to administer as large a dose at first as is considered safe; for if this drug is used at all, the earlier its full physiological effects are produced the better. Generally from a quarter to a half a grain of morphine can be administered, and, if necessary, repeated in four hours. I usually combine one hundredth part of a grain of atropine with each dose of morphine. This is useful if the face is much cyanosed and the circulation is weak.

A very large proportion of persons suffering from symptoms of cholera in the first stage are, in my experience, cured by morphine injections. I have kept no record of such cases, but my impression is that comparatively few persons, if seen early and treated with morphine and salol, as hereinafter described, pass on into the collapse stage. The great difficulty in the treatment of cholera patients, however, is to get them under treatment early enough.

Besides these remedies, in the first stage of cholera a mustard poultice to the abdomen is a comfort, and should be applied for twenty minutes. Ice should be allowed freely. It should be broken in small pieces and sucked. The only food that should be allowed is a little thin cold arrow-root water.



While putting the patient under the influence of morphine, during the last three years I have been in the habit of exhibiting salol in 10-grain doses every two or four hours in the first stage, instead of using the usual astringent and acid mixture. I have also continued the use of salol into the collapse stage; but it is no use to persevere with it in the stage of reaction. I have been in the habit of combining salol with spirits of chloroform and digitalis. This latter drug is added in the stage of collapse.

Since I first began to use salol in July, 1889, I have treated, or had treated, by my friends and subordinates, 146 cases of cholera, of which I have a record with a death rate of 22.6 per cent. These cases were treated between July, 1889, and April, 1891. The first eighteen cases were treated in Bankipore in July and August, 1889, consecutively, and of these not a single case died. I published an account of them in the September number of the *Indian Medical Gazette* for 1889. The next eighteen cases were treated at the Mitford Hospital, Dacca, in 1890, and of those twelve died, giving a mortality of 66.6 per cent. Then fourteen cases were treated at the Bankipore Hospital in 1890 by Dr. Purves, and of these eight died, or a mortality of 57.1 per cent.; eighty-three cases were treated at the Naranigunge Hospital by Dr. Dass under my supervision with nine deaths, of a mortality of 10.8 per cent.; twelve cases were treated by my friends Drs. Dutt and Pilgrim with five deaths, or a mortality of 41.6 per cent. Finally, eleven cases were treated in private practice by my assistants with one death, or a mortality of 9 per cent.

It will be seen from this detailed statement that the results from the use of salol in the treatment of cholera have, in my experience, been very variable. Friends writing to me on the use of salol in the treatment of cholera have repeatedly informed me that they have met with great success in treating a series of cases of cholera with salol, and then, in another series, have found no good effect whatever. Dr. Patrick Hehir, of Hyderabad, apparently has had a similar experience. His first paper on the treatment of cholera with salol, published, if I remember rightly, in 1890, spoke in very favorable terms of salol; while in his paper in the *Practitioner* of November, 1892, he has altered his favorable opinion entirely.

The cases of cholera I have included in the 146 I have mentioned above were all treated in the endemic area of cholera, and were not epidemic. The eighty-three cases treated at Naranigunge were spread over fifteen months. This town is in the district of Dacca, in Lower Bengal, and cholera

is more or less prevalent in it all the year round. The death rate of cholera treated in the Naranigunge Hospital from 1886 to 1889 inclusive was as low as 33 per cent.; but during the fifteen months salol was used in the hospital it fell to 10.8 per cent.

Why is it that salol should seem to be so useful in some cases of cholera and practically useless in others? The same questions can be asked of many other remedies that have been hitherto of repute in the treatment of the disease. It is usual to explain the success of a remedy by the assumption that it is due to its having been tried in epidemic cholera, when the epidemic is on the decline. This may explain the success of some remedies, but I can not see how it applies to all, especially to remedies which are successful in endemic cholera.

I think it is more likely that the success of particular remedies and in particular outbreaks may be found to be explained by the discovery that the disease cholera is not always absolutely the same entity. It is apparent from the researches of Dr. D. D. Cunningham, of Calcutta, that there are at least ten different varieties, if not species, of comma bacillus to be found in the intestines of persons who die of cholera. Now if cholera is dependent on a toxine formed by a bacillus, as seems likely to be the case, is it not possible that different varieties of comma bacillus secrete or form toxins of ranging degrees of intensity, and perhaps possessing slightly different physiological effects? If this is found to be the case, is it not possible that this explains why certain drugs in one series of cases are almost specifics, while in others they prove quite useless? It may also explain, perhaps, the difference in intensity of different cases of cholera, why in some instances it is so mild as to be scarcely distinguishable from ordinary diarrhœa, while in others it is so virulent that it strikes down the strongest and kills them in an hour or two from the onset of the attack.

During the first stage of cholera, then, opium and salol should be persevered with, but as soon as signs of collapse begin no more opium should be given. Salol with digitalis or strophanthus and a stimulant may be continued in this stage. Sometimes eucalyptus also may be tried with advantage. The oil of eucalyptus in small doses is a stimulant, but it may also help to destroy the cholera bacillus.

During the collapse stage cramps are always more or less distressing. These are best treated with ginger frictions and with massage. Thirst is always in this stage very urgent. It is best alleviated by sucking ice, and drinking small quantities of iced water. The urine is suppressed during the stage of

collapse and the body is covered with perspiration. Mustard poultices to the loins may relieve the congestion of the kidneys and should be tried. If the collapse stage deepens ether may be injected and nitro-glycerine in solution may be given. These remedies sometimes rouse the patient. If the nitro-glycerine can not be swallowed, the inhaling of small quantities of nitrite of amyl may be serviceable. Atropine administered hypodermically also has sometimes a good effect.

There is no drug however, that is a specific in the treatment of the collapse stage. It seems to be the case that whatever the treatment, a patient usually gets through the collapse stage of cholera if he has the strength, and if not he dies. The stage of collapse lasts for a variable period; sometimes ten or twelve hours only; but it may extend to two days.

If death does not take place in the stage of collapse the stage of reaction begins slowly. It is ushered in by the patient becoming less restless, and by his getting snatches of sleep of longer and longer duration. The body gradually gets warm, the pulse reappears at the wrist, and the respiration becomes less labored. If the reaction stage is mild and slow in its onset, the next thing is that the excretion of urine is re-established, and if no complication occurs the patient is rapidly and steadily restored to health. More often, however, the stage of reaction is long and tedious. There is difficulty in the re-establishment of the urinary secretion, and a tendency for the patient to be affected by uræmia. If this happens it is rare that the patient recovers.

When the stage of reaction sets in, great care must be taken of the patient. He must not be allowed to eat or drink too much, nor to sit up too soon. It is well to confine him still strictly to bed, and to give fluid food in very small quantities repeatedly. By doing this the kidneys and other organs of the body will gradually recover their functions. Should the kidneys not act a few hours after reaction sets in, it is as well to ascertain if the bladder contains any urine or not, and a catheter should be passed. If no urine is found, warm fomentation and hot poultices should be applied to the loins, and a diuretic mixture containing digitalis or strophanthus should be given every four hours. Sometimes dry cupping and even wet cupping over the loins may be advantageously employed to re-establish the urinary secretion. It is advantageous also to combine benzoate of sodium with the diuretic mixture, for it has some effect in neutralizing the uræmic poison, when the urine is not secreted. Pilocarpine given hypodermically is also useful in cases of suppression of urine. It helps to relieve the system by causing profuse perspiration. It should be given in



doses of from one-tenth to one-third of a grain twice or thrice in the twenty-four hours.

The patient all the while the urine is suppressed should have fluid food frequently in small quantities, and plenty of iced water to drink. Once the flow of urine is re-established, as a rule, the patient may be said to be safely on the road to recovery. It must be remembered, however, as I have indicated above, that he is very weak, and that any injudicious movement or increase of food may tend to bring on a sudden fatal termination; for fatal syncope may follow such a movement as sitting up, and fatal enteritis may be induced by too much food. Rest and careful nursing, therefore, during convalescence from cholera are very necessary, and much of the success in treatment depends upon them.

Atropine and hydrate of chloral have been advocated in the treatment of cholera; but these I take it are more directed against the effects of the toxine of the cholera bacillus. They do good in some instances, but require, like opium, to be given early in the attack to produce their best effect; and even then I do not think they are so uniformly successful as opium. Atropine in my experience is best given with opium, and then hypodermically.—*Practitioner*.

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#### TOLERANCE TO NITRO-GLYCERINE EASILY ACQUIRED: LIMITATIONS OF USE OF THE DRUG IN CHRONIC NEPHRITIS.

By D. D. STEWART, M. D., Lecturer on Clinical Medicine in the Jefferson Medical College

In a recent issue of the *Therapeutic Gazette* a case of polyuria is reported in which, nitro-glycerine having been prescribed, the patient, in less than a year from first beginning this drug, through acquired tolerance to its effects, was taking about eighteen grains daily. As several cases of rather promptly acquired tolerance to nitro-glycerine have been reported in the past year, the records of which are evidently unaware of an earlier case in medical literature, I feel constrained to say a word on the subject.

In the *Polyclinic* of August and of December, 1888, I related a case of chronic nephritis, under treatment in the medical clinic of the Jefferson Hospital, in which, in less than six months after an initial dose of one drop of a 1 per cent solution of nitro-glycerine, such tolerance had been established that a dose of fifty minims of a 10 per cent. solution (five minims pure nitro-glycerine) was taken *four* times daily, with less effect on vascular tension than the initial dose of  $\frac{1}{160}$  grain.

In my experience too readily acquired tolerance to nitro-



glycerine is not rare, the difficulty being to so carefully and intelligently regulate its administration that, while maintaining a constant slight effect on blood pressure, the increase in dose is as gradual as possible. In my case, in which 20 minims of pure nitro-glycerine were taken daily, the patient had not been encouraged to increase the dose beyond an amount sufficient to produce more than a *slight* physiological effect—a feeling of trifling fullness in the head. Yet, despite admonitions as to care in gradual increase, the patient, knowing the nature of his ailment, and believing that great curative power must reside in a drug the name of which suggests so much, and the effects of which were so promptly and powerfully exerted, apparently advanced the dose more rapidly than necessity demanded. Noting this, the drug was several times, at a few weeks' interval, temporarily discontinued, a much smaller amount being directed to be taken on resuming it than that last used; the increase was also to be very gradual. Notwithstanding this, and careful directions as to the best mode of taking nitro-glycerine, doses of 50 minims of 10 per cent. solution four times daily were soon reached and continuously taken without the occurrence of any headache whatever, but slight transient flushing of the face, and no very marked effect on arterial tension, as shown by the sphygmograph.\*

Prescribing nitro-glycerine frequently, I often encounter cases in which I believe similar inconvenient doses could be as promptly reached, with as little systemic effect as in the case just narrated, were a too rapid increase to be permitted. Where it is desired to employ this drug over a considerable period for its effects on blood-pressure, the best rule of administration, in my opinion, is to so proportion the dose that the intervals are comparatively short—never less than four times daily—and the amount, though sufficient to produce some subjective or objective effect, never more than that just necessary to cause the slightest feeling of fullness in the head or to slightly quicken the pulse; these last are certain indications that other physiological effects desired occur. Unless unusual susceptibility exists, if enough is always taken to produce a more marked immediate result, such as flushing and slight headache, tolerance is soon acquired, and a quantity may be early reached altogether impracticable of administration. Where a rather rapid increase seems necessary to maintain a constant effect, an equally important point is to temporarily discontinue the drug for two or more days, at intervals of two or three weeks. On its resumption a much smaller initial dose will be required

\* See *Polyclinic*, 1888, p. 172. A dose of 5 minims of pure nitro-glycerine (in alcoholic solution) was administered by myself before Professor Da Costa and the class in the clinic, so that there could be no mistake as to amount.

to produce physiological effects than that last taken. So used, inconvenient tolerance will be less likely to occur, and the employment of strong solutions, the handling of which is not altogether free from danger, will be less necessary.

It must be remembered that nitro-glycerine has, so far as we know, absolutely no action in cases of chronic nephritis apart from its effect upon vascular tension. It is only indicated in those cases in which the blood-pressure is persistently high, and in which consequences, such as cerebral hæmorrhage or valvular disease of the heart, or stretching of its cavities, are to be feared. Cerebral hæmorrhage is a late complication. It requires for its production not only vigorous heart-action, but also weakened (generally aneurismal) cerebral vessels. Valvular disease of the slow sclerotic form, commonly mitral, is not unfrequently encountered in cases of granular kidney of long duration, in which cardiac hypertrophy has kept pace with prolonged arterio-capillary resistance. As Mahomed long ago showed, the pathological conditions underlying the cardiac condition in these cases is oftener recognized than that in which a leaking mitral has resulted from an overstretched ventricle. These various more or less remote sequences of persistent raised arterial tension—save, perhaps, the last, to prevent which both nitro-glycerine and a heart tonic may be required—are late phenomena, and usually less to be dreaded than certain more immediate results from undue lowering of vascular tone.

It must not be forgotten that a moderate amount of tension is probably actually conservative. It seems to be recognized that those cases of chronic Bright's disease in which tension is persistently low from the outset are actually of much more gravity than the commonly-observed variety with raised vascular tone, and when arterio-capillary resistance shows a tendency to fail voluntarily, scanty urine, with more marked albuminuria, and dropsy may be expected.

In the administration of nitro-glycerine these points must be borne in mind, and the drug not merely prescribed because the case is one of chronic nephritis. Much more was originally expected of nitro-glycerine as a remedial agent in conditions of persistent high tension than has been realized. I now employ it less frequently in such cases than formerly, endeavoring, at first at least, to bring about the same effect by limiting the nitrogenous intake and maintaining a free action of skin and bowels. The influence of constipation in heightening blood-pressure is well known, but this fact is not always applied in therapeutics, and the modifying effects of diet are even less attended to. Nitro-glycerine and the nitrites temporarily lower pulse-tension without influencing the ever-present cause. The

latter, if not arterio-capillary fibrosis—then little controlled by any measure—is nitrogenous waste in the blood. Free action of the emunctories tends to overcome this, but the fountain-head must be sought for permanent relief. The remarkable effect that may be produced by diet on arterial tension in granular kidney is beautifully shown in the accompanying sphygmograms.

In both cases urea and uric acid excretion are much diminished. They are well-marked symptoms of chronic Bright's disease. Casts are present in the urine, but albumen is absent.—*College and Clinical Record.*

#### THERAPEUTICS OF PNEUMONIA IN INFANCY AND CHILDHOOD.

Jacobi (*Archives of Pædiatrics*, April, 1893) speaks as follows concerning the treatment of pneumonia at this period of life: Labor cases should be isolated. Early calomel purgation is valuable in many ways. Temperature is to be interfered with only when it causes untoward symptoms. Phenacetin, antipyrin and acetanilid have more frequently lowered the temperature than saved lives. He recommends quinine during the remissions. Cold, from its refrigerant and stimulant action, is the best antipyretic, especially in the form of the cold pack, for twenty to forty minutes, on chest and thighs, with the arms left out; ice may be rubbed over the surface of the pack. In anæmic babies the pack should be tepid. Alcohol is not needed at first, as a rule. A few full doses of digitalis is better often than its continuous use.

Insufficient peripheral circulation with small pulse demands a vasodilator with the digitalis, and nitro-glycerine, gr.  $\frac{1}{500}$ , or sodium nitrite, gr.  $\frac{1}{16}$  to  $\frac{1}{4}$ , may be given hourly or bi-hourly. Aconite at this juncture may be very valuable in half-drop or drop doses, with or without digitalis, every two or four hours. A strong mustard bath for the feet may at times be invaluable.

Oxygen inhalations through the nose may be of service in gaining time. When direct stimulation of the heart is required strychnia may be used hypodermatically in doses of gr.  $\frac{1}{100}$ , repeated; or ammonium carbonate, gr.  $\frac{1}{2}$  to gr. 1, every half, one or two hours. Camphorated oil, 20 per cent., hypodermatically, in six to twenty minim doses, will prove most efficient. During the period of incipient resolution, with insufficient expectoration, steam, with or without turpentine, may be employed, or teaspoonful doses of camphor water or carbonate of ammonium. Ten to twenty grains of ammonium chloride, volatilized over a flame, will stimulate the bronchi more effectively than its internal administration.—*Annals of Gynecology and Pædiatry.*



## ENTEROCLYSIS IN THE SUMMER DIARRHŒA OF CHILDREN.

Muller (*Therapeutic Gazette*, August 15, 1893) reports seventy-eight cases of diarrhœa in children treated by irrigation, together with careful hygienic measures, dietetic restrictions and suitable internal remedies. His conclusions are as follows:

1. That intestinal irrigation may be considered a valuable adjunct in the methodical treatment of suitable cases of summer diarrhœa.

2. That irrigation with cold or ice water will lower the temperature of the lower portion of the abdomen by direct refrigeration of the blood mass, and that the procedure is indicated when high temperature, lasting for a considerable time, endangers life by coagulating the cerebral fluid or cardiac protoplasm, or when accumulation of fæces, mucus, etc., in the bowel causes a continued irritation of its mucous membrane.

3. *That the dangerous effects of the poisonous animal alkalis are either diminished or counteracted or dissipated by irrigations.*

4. That the influence on the circulatory apparatus is shown by the change in the pulse, which becomes less frequent and stronger.

5. That systematic enteroclysis results in an amelioration of the symptoms and a shortening of the course of the affection, and will often overcome the semi-paralytic condition of different organs.

6. That the resistance which the fever offers to its reduction by this method is an index of the gravity or mildness of the case.

7. That alcoholic stimulants are of importance in the treatment of the summer diarrhœas of children.—*Annals of Gynecology and Pædiatry*.

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STERCOREMIA.

There is a very interesting paper on "Constipation," by Dr. Skinner, in the *Amer. Pract. and News*, June 3. In the discussion of it before the Louisville Medico-Chirurgical Society, Dr. Larrabee said:

Regulating the system and keeping the bowels in a soluble condition can not be overestimated, and I am one of those who believe in the poisonous effects of retained material in the bowels. If we have a disease called "uremia" from retention of the urine, I can not see why we can not have diseases de-



pendent upon "stercoremia." Many people may have died from causes produced entirely by constipation.

There is one point which has struck me all along while engaged in the practice of medicine, and that is the success of quacks who use nothing else than aloin purificata in the treatment of chronic diseases. You can take it for granted that when a man starts out with patent medicines, medicines which he himself has patented and advertised for the cure of chronic diseases, that he is giving aloetic purgatives; and another fact, that is not sufficiently weighed by physicians in debarring the quack, is that he succeeds in relieving many of these chronic cases. Any old chronic case of anything, I do not care what it is, whether rheumatism, gout, or whatever it may be, is more or less relieved by a severe purging. This is where the quacks get in their work; they help every case of that nature, old patients, men who have been drinking a good deal. I know of half a dozen cases here where old chronic cases of mine have bought medicines from men who were selling them along the street, the vilest compound ever put up, a decoction of aloes, and horse aloes at that, and every one of them were relieved, and relieved for quite a while.—*Maryland Medical Journal*.

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## GYNECOLOGY.

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### CYSTITIS IN WOMEN.

By F. D. BRANDENBURG, A. M., M. D., Acting Professor of Gynecology, Western Reserve University; Gynecologist to Charity and Woman's Hospitals; Consulting Gynecologist to City Hospital, Cleveland, Ohio.

The trite old saying, "An ounce of prevention is worth more than a pound of cure," applies to no disease better than to that of cystitis. Its prevention, from the many common causes which give rise to it, with ordinary care, can easily be accomplished; but, once contracted, a severe case of cystitis will defy, even for months, the combined resources of the most appropriate medication, and the most skilful surgery. The uterus and its appendages have been thoroughly studied, and volumes written about them; but the bladder is a comparatively unexplored region, and offers rich rewards to the zealous student who will labor unceasingly in clearing up the many doubts and obscurities with which many disasters of the bladder are still enveloped.

Emmet, by his button-hole operation, and Skene, by his endoscope, have opened the pathway for future discoveries;

but there is no department of gynecology still so shrouded in obscurity as that of the urethra and bladder. Among the many etiological factors, the infection with unclean catheters and the ammoniacal fermentation of retained urine stand foremost. In many cases the catheter itself may be perfectly aseptic, but it serves as an agent to carry infectious germs to the already susceptible vesical interior; as the introduction of the lochial discharge in the puerperal state, or of an ordinary vaginal discharge in the non-puerperal state, associated with some pelvic inflammation; in both of which instances there is already present a hyperæmic condition of the bladder, due to the increased collateral circulation attending those conditions. Ammoniacal urine may be caused by undue retention, or, the bladder being incompletely emptied at each micturition, some stale urine is left, and, as the fresh urine is excreted, and falls, drop by drop, into the stale urine, it, too, becomes stale. Calculi, neoplasms, and foreign bodies, by irritation, cause an excess of mucus, the presence of which renders the normal acid urine alkaline, thus forming a favorable medium for the formation of pus, which is lastly poured out by the continued irritation. Again, abnormal acidity of the urine, due to excess of uric acid, or oxaluria, with oxalate of calcium, or both combined, as often found, will produce ammoniacal urine by irritating the vesical mucous membrane, causing an excess of mucus, the urine becomes alkaline and urea is decomposed into ammonium carbonate while still in the bladder. The change in the reaction of the urine, from excessive acidity to alkalinity, intensifies the incipient cystitis.

The continued presence of ammonium carbonate in the urine soon develops a severe cystitis, and the excessive amount of mucus constantly decomposing the urea into ammonium carbonate, only adds fuel to the fire. The first few months of pregnancy and the week following confinement, it is not infrequent to find cystitis present, but the period to be watched most carefully is that during labor.

Then the bladder should be carefully emptied, for, owing to accumulation of urine, the bladder may have risen high in the abdomen, so that with an ordinary metal catheter the urine can not be withdrawn, but, using the long, soft, velvet-eye catheter, the bladder can be thoroughly emptied, and a possible cystitis averted.

In such cases, the rubber catheter should be firmly held, as instances are on record where, by suction, the catheter, while lightly held, has been drawn into the bladder. Pelvic inflammations and uterine displacements aggravate an existing, or tend to light up a latent, cystitis. In a retroverted uterus,

and especially when complicated with pregnancy, the cervix uteri is apt to press directly against the neck of the bladder, or urethra, causing retention, distention, and even sloughing of the vesical mucous membrane. An anteverted uterus enlarged and sagging in the pelvis, will act the same way. Chemical irritation, as the use of cantharides, may cause cystitis; also turpentine and balsams of copaiba and tolu.

Indigestion, with imperfect oxidation, followed by decomposition of urea, as already described, is a predisposing cause of cystitis; so also are phthisis, pneumonia, dilatation of the heart, followed by venous stasis, causing chronic hyperæmia of the kidneys, with the presence of oxalates, urates, and finally albumen.

Gonorrhœa occasionally extends to the urethra and thence to the bladder, causing a very severe cystitis. The pathology of cystitis is the same as that of the inflammation of mucous membrane in general. First, vascularity is increased, the mucous membrane being of a bright red color, followed by mucus, and finally, pus.

In some cases, especially following pregnancy, owing to over-distention of the bladder, causing death of the mucous membrane by shutting off the blood supply by pressure, casts of either part or whole of the vesical cavity have been thrown off. In chronic cystitis the mucous membrane is of a muddy gray color, with hyperplasia and exuberant granulations; thickening of the walls of the bladder and contraction in many cases. The inflammation travels along the ureters and the kidneys become affected; this may also occur by obstruction, with dilatation of the ureters and the renal pelvis. Abscess and gangrene rarely occur. In desperate cases, with extension of the inflammation to the kidneys, uræmia closes the scene.

In cystitis the urine is generally alkaline and phosphatic, containing mucus, pus, the triple and amorphous phosphates. In pus from the kidneys, freshly voided, the urine is apt to be acid; the presence of casts of the renal tubules, and the absence of frequent and painful micturition, will be sufficient to diagnose renal from cystic inflammation. In cystitis the urine is more cloudy toward the close of micturition than at the beginning; due to the presence of pus and mucus. When only the pelvis of the kidney is diseased, the urine filled with pus and the bladder irritable, the diagnosis is more difficult; but the history of renal colic and acute pain in the region of the affected kidney, pelvic epithelium, and perhaps some casts, will assist in the correct diagnosis. In chronic cystitis pus is present in large quantities, and the odor, in many cases, can only be compared to that of an ancient pelvic abscess. It is

well to bear in mind that a pelvic abscess is sometimes the cause of cystitis, and *vice versa*. Cystitis and distention of the bladder are sometimes confused with acute peritonitis.

In peritonitis the urine is high-colored, the same as in any general febrile condition. On percussion the tenderness is more general, whereas, in cystitis, it is apt to be localized to the region of the bladder, and in distention the area of dullness is marked out plainly. Then, the urine, containing mucus, pus, blood and triple phosphates, will be diagnostic of cystitis.

Circumscribed pelvic peritonitis will be more difficult to differentiate; but if one remembers that in cystitis the inflammation attacks the mucous membrane at the neck of the bladder, it may spread to the muscular coat, but rarely reaches the peritoneal covering. In pelvic peritonitis the peritoneum is first attacked, and by vaginal examinations, noting also the condition of the urine, the proper diagnosis will soon be made. Cystitis may be present with metritis, or the metritis may occur alone; here the same pains, elevation of the temperature and vesical irritation may be present; but the vaginal discharge, the large tender uterus, as mapped out by conjoined manipulation and the normal condition of the urine will soon make apparent the true nature of the disease. In cystitis the specific gravity of the urine is from 1005 to 1015; at first may be acid in reaction, becoming later alkaline.

Micturition may be frequent, painful and difficult. The attack may be ushered in with a chill, followed with elevation of temperature or begin insidiously. There is a feeling of weight and discomfort behind the pubes, followed by the acute hypogastric pains shooting down to the thighs or toward the anus or loins. The acute attack lasts, generally, from a few days to a week, when it either convalesces or continues subacute or develops into the chronic condition; here the frequent, painful, difficult micturition renders the patient's life almost unbearable. There is hardly any disease to which mankind is heir that entails so much suffering and agony as a case of chronic cystitis. Dysuria, neuralgia, anorexia, anæmia, ammonæmia, uræmia and coma complete the gamut.

The treatment of cystitis can be divided into medical and surgical. In the way of prophylaxis, the first great requisite is a thoroughly aseptic catheter. The example set by Kustner at the lying-in hospital at Jeva is worthy of imitation by all. He uses a catheter made of common glass tubing, open, and carefully smoothed at both ends; annealed and slightly curved at the proximal end for entrance into the urethra, and more strongly curved at the distal end, so as to easily receive the urine in any appropriate vessel. Since the introduction of the



above simple invention, the occurrence of a case of septic cystitis at Jena has become a *rara avis*. Each patient has her own catheter, and after use it can be easily and thoroughly cleansed. This catheter can be made in a few moments, and its cost is but a trifle. I use it almost exclusively in my surgical work, and have never had a case of cystitis from the use of a catheter.

Whether at the child-bed, or at any ordinary case, the greatest care should ever be exercised that the surrounding parts are clean, and no infectious material is introduced into the vesical cavity by the catheter.

A surgeon, in praising a soft rubber catheter, said he had used it over five hundred times; he should also have added, how many cases of cystitis had developed in its use. When obliged to use a soft rubber catheter, its use should be restricted to but one patient, and should be thoroughly cleansed in an antiseptic solution after each use. Care should be exercised in the use of cantharides, turpentine, balsams of copaiba and tolu and alcohol; it has also been noticed that asparagus and onions have a tendency to excite any latent cystitis, and should be avoided; so also strong coffee and common salt. Uterine displacements or pelvic inflammations should receive their appropriate treatment. Acute aseptic cystitis should only receive constitutional treatment at first, viz.: rest in bed, elevation of pelvis, a milk diet, the use of saline cathartics, with hot sitz bath, and the free use of mineral waters. Antiphlogistics, if necessary, with the use of opium by suppository, or chloral hydrate, bromide of sodium and morphine, by enema, will prove of service in relieving tenesmus and pain. Alkaline diluents, as citrate of potassium, with infusion of buchu, if the urine is too acid. On the other hand, if the urine is alkaline, benzoate of ammonium, or sodium, until the reaction is alkaline, or slightly acid. The benzoate of ammonium often acts as a specific in many cases of acute cystitis. Irrigation of the vesical cavity is necessary when the cystitis does not improve under the above treatment, when due to the introduction of septic material into the bladder, or when chronic cystitis is present. In irrigation, the main thing to be kept in mind is the exclusion of air. Either the fountain or bulb syringe can be used for the injection of the warm medicated solution. In chronic cystitis the bulb syringe is better, as more force can be used, and all portions of the vesical cavity reached. The glass catheter of Küstner, with a piece of rubber tubing to connect the catheter and the small tip of the syringe, is the only apparatus necessary for the most thorough irrigation of the inflamed vesical mucous membrane. In mild cases, several irrigations weekly are sufficient; but in severe cases it must be

necessary to irrigate even every few hours. In the milder, using solution of boracic acid, or weak solution of silver nitrate, the latter always followed by a solution of sodium chloride, to neutralize the action of the caustic; in the more severe cases using a stronger solution of silver nitrate. In acute cystitis, a restriction of diet is necessary, but in chronic cystitis, the most generous diet possible should be given, to build up the constitution and strengthen the patient; giving her an abundance of fresh air, with moderate exercise.

Avoid the formation of the terrible opium habit, by giving as little as possible; preferring, rather, the bromides. Trional or paraldehyde will be invaluable for insomnia. Tonic treatment is necessary, and if indigestion, with oxaluria, be present, the administration of fuming nitro-muriatic acid will be found of service. Eucalyptus globulus, salicylate of sodium, balsam of peru and copabia, oil of sandalwood, sulpho-carbolates, and many other drugs have been given with varying success. Among the various methods of treatment in chronic cystitis, Emmet's button-hole operation on the urethra, and Skene's endoscope, stand foremost. The Emmet operation consists in making an opening in the centre of the floor of the urethra; this can be accomplished either by an instrument specially devised for the purpose by Dr. Emmet, or by inserting a block tin sound in the urethra, and cutting down upon it; the edges of the opening being united by a continuous suture of cat-gut, thus making a continuous opening. Through this opening the urethra and bladder can be treated with ease; the endoscope can be inserted almost directly into the bladder, and the mucous membrane treated far better than by inserting it through the urethra itself. A strong point in favor of this operation is that it does not interfere with the normal retentive power of the bladder, which is contained in the loose fibres about the neck of the bladder, the opening being midway between the mouth of the urethra and the neck of the bladder. This button-hole can be closed at any time, and is a comparatively simple operation. This method of dilating the urethra and inserting the finger for diagnostic purposes, while lauded by many, is really a dangerous procedure; it is very apt to rupture the urethra so as to produce a hopeless dribbling of urine. Other methods, already described, will reveal the same information, and even more reliably, without any attending danger.

While constitutional treatment is very important in chronic cystitis, the main source of hope for success will be in local instrumental treatment of the bladder. One of the cardinal rules in the treatment of inflammation is rest. This is as true of the vesical cavity as of any other part of the body. Rest can be secured either by a self-retaining catheter, or by colpo-

cystotomy. The drainage can be accomplished by a piece of rubber tubing, or by Sim's, Holt's or Goodman's self-retaining catheters. This treatment has effected cures in many apparently hopeless cases; but there are cases which defy even this treatment. The endoscope has been used, likewise irrigation and drainage, with no success; but thanks to Dr. Emmet, colpo-cystotomy is left as a beacon light, to dispel the gloom of many failures from previous unsuccessful treatment.

Careful examination of the urine should be made, to ascertain the condition of the kidneys, before giving ether, to find out if the inflammation of the vesical mucous membrane has invaded the kidneys, as already described. The patient, being etherized, is placed in Sim's position for the use of Sim's speculum; a sound is introduced into the bladder, causing the vesico-vaginal septum to protrude in the median line into the vagina, and with tenaculum and scissors an opening is made into the bladder, the raw edges being united by a continuous cat-gut suture. The opening can also be made by the Paquelin cautery. The bladder has now complete rest; irrigation and treatment of the mucous membrane can be continued as before; a urinal will receive the constantly escaping urine, so that the patient is able to be about and take sufficient exercise. After this operation patients formerly considered hopeless now begin to improve, and in three to six months' treatment the opening can be closed, and they are generally discharged cured, or at least very much improved. The operation is a most excellent one, the improvement in many patients is simply marvelous. The only trouble is that, in most cases, there is too long a delay before resorting to this valuable procedure. It is just as common-sense and strictly surgical to make a colpo-cystotomy for the free discharge of pus, and the thorough treatment of the diseased mucous membrane, as it is to open a pelvic or any other abscess, and thus, by drainage, accomplish its cure.

If calculus is the cause of cystitis, remove it; if fissure in ano, or hemorrhoids, their treatment is indicated. My plea to-night is, do not delay, or lose valuable time. If the tripod, attitude, anodynes and alkalies does not cure, then, with the aid of morphine, cocaine or chloral hydrate in your medicated solution, use thorough irrigation; if still there is no improvement, then by all means I should advocate earnestly the performance of colpo-cystotomy.—*American Gyneco. Journal.*

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#### SPONTANEOUS AMPUTATION OF AN INVERTED UTERUS.

Hutson (*Archives of Gynæc.*) relates a case in which the patient was a mulatto, aged about 35. She had aborted several times and never carried a child to term. A negro midwife at-

tended her and delivered the child and placenta "naturally," after the custom in South Carolina, the patient being placed in a kneeling position before a chair, whilst uterine contractions were stimulated by shaking her up and down. When the patient got up to stool the uterus came down. She lay for three days longer on a filthy mattress in hot weather. Huston was then called in. She was in an unconscious condition, the abdomen being enormously distended, while a putrid pulpy mass protruded from the vagina. It was the inverted uterus, which had virtually amputated itself by the contraction of the cervix upon the ligaments and tubes. The sloughy organ was removed and the vagina plugged with gauze smeared with carbolized vaseline. The patient, who at the time seemed to be dying, made a good recovery.—*Medical and Surgical Reporter.*

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#### CONSERVATIVE OPERATION ON THE OVARIES, TUBES AND UTERUS.

A. Martin (*Deut. Med. Woch.*, 1893) draws attention to the importance of this subject. (1) Resection of the ovary. Ovarian disease is very frequently bilateral, but sometimes circumscribed cystic disease may be found in other ovary. The question arises as to whether the whole organ should then be removed. It certainly should be if there is no healthy ovarian tissue left or the process be a suppurative one, but in some other cases it may not be necessary to remove it. The author refers to twenty-seven such cases with one death; two of these relapsed, and of the twenty-four remaining ones eight bore children. Ignipuncture has been employed, but the author is satisfied with incision and stitching up. (2) Resection of a stenosed tube, the other being removed for disease. Here it may be more difficult to recognize the character of the disease. The contents of the tube must be most carefully looked to. If the contents be turbid or unmistakably purulent or if the mucous membrane be ulcerated, the tube must be removed; otherwise resection with the formation of a new ostium may be practised. If any doubt exists, the whole appendage must be taken away. Of forty cases, with two deaths, only four were not cured or considerably improved.

Only one became pregnant, but twelve were unmarried, and the husbands of some others were neurasthenical or had had gonorrhœa. (3) Enucleation of myomata. The older the patients the more likely are myomata to be multiple. In 141 cases of intraparietal myomata twenty-six died, but this includes the period of development of the *technique* of laparot-



omy; of the last twenty, only one died. Of the 115 only four relapsed (3 per cent). The author has not found any difficulty in stitching up the bed of the tumor, nor has any unpleasant hæmorrhage occurred. Only two of these patients became pregnant, but other causes of sterility may exist. The author concludes (1) that the conservative operations do not present any materially greater risk than radical ones; (2) that women are thus relieved of their troubles in by far the greater majority of cases; (3) that relapses are exceptional; (4) that the female functions persist; (5) that child-bearing is possible; and (6) that child-birth then takes place without any special risk.—*Br. Med. Jour.*

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#### TOBACCO OINTMENT IN LABOR.

Dr. S. F. Verbeck states (*Chicago Medical Times*) that he was induced to use this preparation in a case of undilatable os in labor. He says he applied it thoroughly with his finger over the vaginal surfaces, and over the os and neck and as high up as he could reach on the walls of the womb. What was his delight to notice an almost immediate change in the condition of the parts and a most satisfactory and complete dilatation within about half an hour. There was no constitutional symptoms except a desirable relief from the irritating pains, and the appearance of normal expulsive pains. The child was born within an hour. He has used it again with the same results. Since then he has used this ointment in eleven severe cases of rigid os without having any unsatisfactory results whatever. In every case the relaxation was complete within an hour, and the termination of the labor was in every way satisfactory. In one of the cases there was a mal-position and he was obliged to use forceps, but their use was greatly facilitated by the perfectly relaxed condition of the parts. The ointment was prepared by cutting up a plug of strong tobacco, mixing thoroughly with melted lard, and allowing it to simmer for several hours. It was then strained and kept for use.—*Medical Standard.*

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### Book Reviews and Notices.

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*Manual of Practical and Physiological Chemistry.* By Charles E. Pellew, E. M. With illustrations. New York: D. Appleton & Co., 1892.

This is one of the handiest laboratory companions we have ever seen. It is not as encyclopedic as Klein and Burdon—

Sanderson's "Physiological Laboratory," which can only be fully appreciated by men who devote themselves almost exclusively to physiological researches. Pellew's work is a guide to chemical analysis, and also a companion in experimental physiological work. The nature of book the necessarily renders the descriptive parts rather brief. The arrangement of the text is admirably adapted to practical laboratory demonstration. Each chapter or section opens with a description of a substance and its reactions, and aids with direction for laboratory experiments. The author takes the student through the whole range of proximate principles and analyzes all the fluids and tissues of the body. The carbohydrates are first disposed of, then the fats and oils, the proteids and the inorganic substances. A course in water analysis is given. Special chapters on digestion and the urine are given. The illustrations, while not very numerous, are very good. The work forms a very convenient laboratory guide, and it covers as much ground as every student ought to know. The student who has personally carried out Pellew's course of instruction will have a very broad idea of physiology.

A. McS.

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## Medical Items.

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### URETHRITIS OF VELOCIPEDISTS.

M. Millée has presented a report to the Société de Médecine et de Chirurgie Pratiques, at its session held February 16 last, of a number of observations which he had made on the urethritis in velocipedists. As the inflammation followed closely on the exciting cause, it could not be attributed to any other source.

Among the numerous cases which he has thus studied, the author presents eight very interesting ones, as reported in the *Progrès Médicale*. In every one of these the most scrupulous inquiry caused him to reject the possibility of blennorrhagic origin. Besides, in the greater number of the patients there had been, on many occasions, attacks of irritation in the urethra and the prostate, accompanied with difficult micturition, before it was possible to determine a well-defined case of suppurating urethritis. That is a condition which ought, it seems, to arrest the attention of physicians, for heretofore it has seemed impossible to bring any satisfactory observations to bear on cases in which the cause of the urethritis was purely traumatic. There is, no doubt, room for the discussion of the

question; almost all the patients had had previous attacks of blennorrhagia; but in every instance the periods were very remote, so that the want of care in exposing the perineum to unusual irritation on the saddle of the bicycle must really be accepted as the cause of the disease.

M. Léon Petit—"I can not accept the term 'urethritis of velocipedists.' Indeed, the greater number of the cases of M. Millée were persons who should have used the greatest care in selecting their instrument. However, I do not deny the fact itself, but I think that urethritis will be found only in cases in which the patient was badly mounted, or in novices in whom abnormal friction is produced by the unusual efforts they are obliged to make. Any one well trained will not experience such accidents, and, for this reason, prejudice against this sport should not be unjustly aroused, since it has come into very general use and is capable of rendering valuable service in many ways."

M. Moreau—"There is another cause which deserves consideration: all who make long journeys on velocipedes are liable to become greatly heated, are thirsty, and generally drink much on the road. I share fully the opinion of M. Léon Petit; it is only the novices who have bad instruments who are likely to have inflammation of the urethra or of the prostate; but the term 'blennorrhagic' should not be introduced in considering this question, for its bacteriological analysis has not yet been determined."

M. Léon Petit—"I insist strongly on the fact that fatigue alone should not be taken into account as a cause of urethritis; there must be friction caused by a bad instrument."

M. Ménere—"I am not so positive as M. Petit. I have found such irritation even in people very well mounted, and having all the skill of an experienced bicyclist; but these persons were of a certain age. They presented, in dismounting from their machines, priapism, a desire to urinate frequently, and even emissions—which occurred without any special sensations preceding or accompanying them. It is evidently necessary to give full consideration to the fact that the saddle ought to be very hard, not at all soft in the middle, in order that the rider may rest his weight on the ischia."

M. Léon Petit—"I do not know that the facts related by M. Moreau are peculiar to old people; but in youth I have observed that the effect immediately following the immoderate use of the bicycle was impotence rather than excessive excitement."

M. Malécat—"It would be very desirable to see the patients described. It is useful in all such cases to have the op-

portunity to examine them closely; many people afflicted with rheumatism complain of pain and inflammation in the region of the urethra and the prostate, which may be caused by an excessive elimination of uric acid through the urine. Besides, we also know that after violent exercise, great fatigue, or excessive prostration, an increased quantity of uric acid is eliminated. The form of internal traumatism might also be considered."—*Sanitarian*.

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#### ELECTROLYTIC METHODS OF DISINFECTING.

Referring to the fact that at the time of the outbreak of cholera at Havre and Rouen the prefect of the Seine utilized electrolytic methods of disinfection to combat the epidemic, *Electricité* says that the system employed was that of Eugene Hermite, which involves the electrolysis of common salt or any other of the chlorides, producing a discoloring and disinfecting solution. The boiler and engine are located on the ground floor, while the dynamo and electrolytic bath are placed in the room above. Sea water, or a brine in which sea salt has been dissolved in the proportion of  $1\frac{1}{2}$  kilogrammes to the cubic metre, is introduced into the electrolytic vat. Under these conditions there are formed hypochlorites, or at any rate combinations of oxygen and chlorine possessing the power of destroying malodorous products and infectious germs. This disinfecting and antiseptic solution is drawn into a reservoir, whence it is piped to the street. It is used for washing, etc.

At the present time, when matters of sanitation demand special attention, and when the problem of rendering sewerage innocuous demands solution, the electrical means of disinfection become of paramount importance. Sewage from the Paris mains is partly employed in irrigation in the plains of Gennevilliers and Asnieres, on the left bank of the Seine. The system was connected in 1872, and several hundred acres are now under treatment. During part of the year irrigation is not possible, and even if it were there are still collected in these fields almost all the disease germs of the city of Paris. The land then becomes a place for germ culture, and is a constant menace of an epidemic of infectious disease. It seems to be both necessary as well as prudent to sterilize the sewage.

The several electric processes of purification will be recalled. Among others are that of William Webster, tried in England, and that of Hermite, which has for some years been employed at Rouen, with results which, if not decisive, are at least very encouraging. These processes are familiar. The sewage



water, with some chloride added (common salt or chloride of iron, for example) is caused to pass through the electrolytic process. This direct means of treatment is perhaps impracticable in a city like Paris, inasmuch as the amount of sewage water reaching the collecting reservoir at Asnieres ranges from 300,000 to 600,000 cubic metres daily; but an indirect method is perfectly feasible, which would consist in adding to the sewage a concentrated solution of electrolytic hypochlorite.

The problem of electrolytic disinfection becomes simple and practicable wherever sea water is procurable. On board vessels, where motive power is available, it will be a simple matter to prepare the solution; and seaports, which are nearly always infected, can be readily supplied with this simple chlorine disinfectant. Let the sanitary commissions of ports, which so often are the starting points of epidemics, utilize these processes, and we will no longer see cholera at Toulon, or at Havre, or at Hamburg. No antiseptic can be prepared more economically than electrolyzed sea water.—*Sanitarian*.

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#### THE PUNISHMENT OF HABITUAL CRIMINALS.

Society has always been troubled in its disposition of criminals. When there were no jails, these were either set free, placed in slavery, or killed. In the first instance they usually returned to their old ways; in the second, not a few escaped or were pardoned; and in the third, a mistake in the person was sometimes made.

Not a few thinkers have recommended the castration of the habitual criminal. In the *Virginia Medical Monthly* Dr. G. Frank Lydston says: "This method of punishment leaves behind it evidences which will prove a wholesome warning to criminals of like propensities. It prevents the criminal from perpetuating his kind. The murderer is likely to lose much of his savageness; the violator loses not only the desire, but the capacity, for a repetition of his crime, if the operation be supplemented by penile mutilation according to the Oriental method. A few emasculated negroes scattered around the thickly settled negro communities of the South would really prove the conservation of energy, as far as the repression of sexual crimes is concerned. Executed, they would be forgotten; castrated and free, they would be a constant warning and ever-present admonition to others of their race. Thus castration is a rational method of dealing with many phases of the crime question."

Herdsmen castrate such males as they regard as unsuita-

ble for propagating the best samples of their species. Horsemen castrate horses designed for common use in order that they may be more docile. Oriental monarchs castrate such of their subjects as they design to bring into close relation with their harems. If all habitual criminals were dealt with in this manner, the subjects of this punishment would be much like the rat with a bell fast to his tail, running among his fellows. He would advertise the fact of his crime and of its punishment, two things very generally forgotten by all parties. He would not people the earth with his corrupt blood. The extinction of some of the worst breeding classes would give the better a chance to occupy a larger portion of the earth.

In Michigan an effort has just been made to restore the death penalty for murder. If in place of this it were ordered that the convicted individual should be castrated, and then confined as at present, it is more than probable that the progress of this habit of killing people would be checked.—*American Lancel.*

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DR. GEORGE M. STERNBERG, the new Surgeon General of the United States Army, was born June 3, 1838, in New York. He was appointed assistant surgeon in 1861, captain and assistant surgeon in 1866, major and surgeon in 1875, lieutenant colonel and deputy surgeon general in 1891. He was brevetted captain and major "for faithful and meritorious services during the war," and lieutenant colonel "for heroic conduct in the performance of duty at the battle of the Clearwater, Idaho," in 1877. Dr. Sternberg was a member and the secretary of the Havana Yellow Fever Commission of the National Board of Health in 1879; delegate from the United States to the International Sanitary Conference at Rome in 1855. In 1887 he was detailed, by direction of the President, in pursuance of an act of Congress, to make investigations in Brazil, Mexico and Cuba, relating to the etiology and prevention of yellow fever. In 1892 he was appointed consulting bacteriologist to the health officer of the port of New York, by authority of the War Department, and in compliance with the special request of the health officer of the port of New York and the advisory committee of the New York Chamber of Commerce. He is a member of many learned and scientific bodies, and has contributed largely to medical literature. By virtue of his scientific attainments and original investigations, as well as of active service in the field, the appointment of Dr. Sternberg will receive the cordial approval of the medical profession. The country, the President and Dr. Sternberg are to be congratulated on a deserved promotion.—*Med. News.*

## TREATMENT OF NEURASTHENIA, MELANCHOLIA AND EPILEPSY BY INJECTIONS OF NORMAL NERVE SUBSTANCE.

Prof. V. Babes, of Bucharest (*Therapeutische Monatshefte*), says this method of treatment is contraindicated in irritable conditions, inflammations, and degenerations of the nervous system; but good success has been attained in neurasthenia, melancholia, and epilepsy. The fluid is prepared by rubbing up one part of the gray substance of freshly-killed sheep's brain with five parts bouillon, or a six-tenth per cent. solution of table salt, and straining through gauze or mull, everything, of course, being done aseptically. Each patient received about thirty-five injections, one every second or third day.—*Canadian Practitioner*.

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## PERIODS OF INCUBATION OF THE INFECTIVE FEVERS.

A committee of the London Clinical Society has recently arrived at the following conclusions upon this subject:

Diphtheria, two to seven days; oftenest two.

Typhoid fever, eight to fourteen days; sometimes twenty-three.

Influenza, one to four days; oftenest three to four.

Measles, seven to eighteen days; oftenest fourteen.

Mumps, two to three weeks; oftenest three weeks.

Rubeola, two to three weeks.

Scarlet fever, one to seven days; oftenest two to four.

Small-pox, nine to fifteen days; oftenest twelve.

Further investigations were made with regard to the time and duration of the infective period.

Diphtheria was found to be infective during the period of incubation, attacks and convalescence.

Mumps and rubeola are also infective for three or four days before the onset of the parotiditis and appearance of the rash.

The contagiousness of measles speedily disappears and does not continue in disinfected persons for over three weeks.

Typhoid fever is infectious from the time of onset until two weeks after the fever has gone and convalescence set in.

As is well known, the contagiousness of scarlet fever varies greatly, but is generally continued a very long time—certainly until desquamation ceases, and sometimes as long as eight weeks.—*N. Y. Med. Record*.

## MORTUARY REPORT OF NEW ORLEANS.

FOR AUGUST, 1893.

CAUSE.	White .....	Colored..	Male.....	Female...	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	10	10	16	4	15	5	20
“ Intermittent .....	1			1		1	1
“ Remittent .....	2	5	3	4	3	4	7
“ Congestive.....	7	2	5	4	7	2	9
“ Typho .....	3		1	2	2	1	3
“ Typhoid or Enteric.....	1	1	1	1	1	1	2
“ Puerperal.....							
Leprosy.....		1		1	1		1
Scarlatina .....							
Measles .....							
Diphtheria .....	10	1	6	5	1	10	11
Whooping Cough .....	3		1	2		3	3
Meningitis .....	12	2	5	9	6	8	14
Pneumonia.....	11	1	7	9	7	5	12
Bronchitis .....	10	3	7	6	4	9	13
Consumption.....	42	30	40	32	70	2	72
Cancer .....	11	1	5	7	12		12
Congestion of Brain.....	7	3	10		6	4	10
Bright's Disease (Nephritis) ....	15	1	11	5	16		16
Diarrhœa (Enteritis) .....	17	7	14	10	10	14	24
Cholera Infantum .....	3	4	4	3		7	7
Dysentery.....	3	5	4	4	6	2	8
Debility, General .....	3	3	2	4	6		6
“ Senile .....	10	9	8	11	19		19
“ Infantile.....	1	5	3	3		6	6
All other causes .....	161	74	141	94	162	73	235
TOTAL .....	343	168	294	217	354	157	511

Still-born Children—White, 34; colored, 27; total, 61.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 22.30; colored, 29.00; total, 24.14.

F. W. PARHAM, M. D.,  
*Chief Sanitary Inspector*



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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a written order for the same accompany the paper.]

### NON-MALIGNANT TUMORS OF THE LARYNX.

By W. SCHEPPEGRELL A. M., M. D.,

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Prior to the introduction of the laryngoscope the diagnosis of laryngeal tumors was rare, this condition being recognized during life, only in those cases in which the size or position of the neoplasm allowed it to be seen directly through the fauces. In the large majority of cases these tumors were found only at the post-mortem examination.

The literature relating to laryngeal tumors was so scanty that in 1854 Middeldorff<sup>1</sup> was able to collate only 64 cases, in only 9 cases of which any attempt at extirpation was made.

The introduction of the laryngoscope, however, developed a new era in the diagnosis and treatment of laryngeal diseases, and its influence on the literature of laryngeal tumors was soon apparent. Thus in 1876 Fauvel<sup>2</sup> published a detailed history of 300 cases of laryngeal tumors (Polypes du larynx) observed by him during the previous fifteen years; Navratil<sup>3</sup> saw 788 cases, Tobold<sup>4</sup> 492, Schroetter<sup>5</sup> 471, and many other observers each report a large number of cases. According to the collective investigation of Semon<sup>6</sup>, 10,747 benign laryngeal growths were reported by 107 observers, and, of these cases, 8216 cases were operated upon.

The large number of reported cases would lead us to suppose that benign growths of the larynx are of common occurrence. That this is not the case is universally acknowledged by laryngologists, except Fauvel,<sup>2</sup> whose experience in this respect appears to have been somewhat exceptional. Newman<sup>7</sup> states that they constitute not more than 2 to 2½ per cent. of all chronic diseases of the larynx, and Lennox Browne<sup>8</sup> and McBride<sup>9</sup> fix the proportion at a still lower figure.

In the 15th Annual Report of the Presbyterian Eye, Ear and Throat Hospital, of Baltimore, kindly sent me by Dr. J. J. Chisolm, I find that of 19,997 cases of throat diseases treated during fifteen years at the hospital, there were but thirty-seven cases of benign growths of the larynx observed, a proportion of one to 540 cases. By reference to the reports of the Eye, Ear, Nose and Throat Hospital of this city, we note that during the preceding three years 4220 cases of throat diseases were examined, among which only fourteen cases of non-malignant tumors were found, a proportion of one to 300 cases. From these statistics it will be seen that, in this country at least, benign neoplasms of the larynx are cases of considerable rarity.

*Etiology.*—The pathogenesis of laryngeal tumors is still an undecided question. In many cases we find present a hyperæmic condition of the larynx, but it is still unsettled whether this condition plays a role of cause or effect. Bosworth states that in a large proportion of his cases he could find not only no inflammatory condition to account for the presence of the neoplasm, but the growths had not even excited any morbid process in the surrounding tissues. Lennox Browne<sup>8</sup> found the greater number of his cases in professional singers, actors and others who made an excessive use of the voice; and this is also the experience of Fauvel.<sup>2</sup> Morrell Mackenzie, however, reports a case of a laryngeal tumor found in a deaf mute.

Cohen<sup>11</sup> surmises that the effective cause is frequently a catarrhal condition in connection with the exanthemata, or resulting from diphtheria, pertussis or the inhalation of irritant vapors.

In the seven cases which have come under my observation, one was due to severe exposure, two to excessive use of the

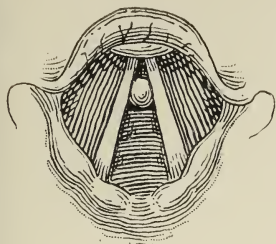


FIG. 1.  
FIBROMA OF LEFT VOCAL CORD,  
DURING GENTLE BREATHING.

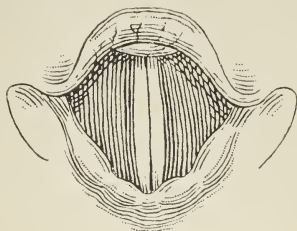


FIG. 2.  
FIBROMA OF LEFT VOCAL CORD,  
DURING GENTLE PHONATION.

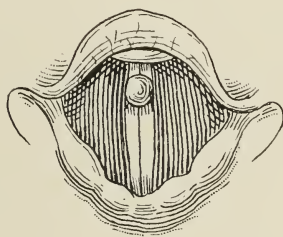


FIG. 3.  
FIBROMA OF LEFT VOCAL CORD,  
DURING STRONG PHONATION.

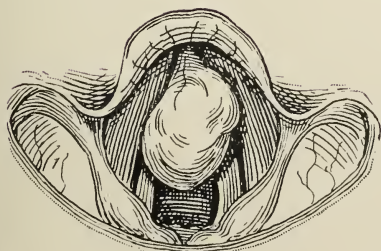


FIG. 4.  
LARGE FIBROMA WITH ITS POINT OF  
ATTACHMENT BELOW THE GLOTTIS.

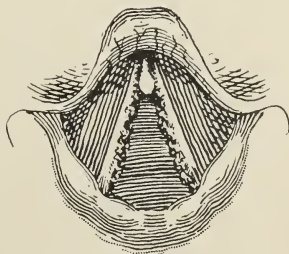


FIG. 5.  
MULTIPLE PAPILLOMATA OF  
VOCAL CORDS.







*a.*—VASCULAR SPACES.

*b.*—VASCULAR SPACES, with fragments of clots *in situ*.

*c.*—MUCOSA, covered with stratified epithelium.

DR. SCHEPPEGRELL'S CASE OF FIBROMA OF LEFT VOCAL CORD.



voice, and the cause in the remaining cases could only be surmised.

Tuberculosis and syphilis have been considered factors in the etiology of laryngeal tumors, but this is not supported by clinical experience. As pointed out by Sajous,<sup>12</sup> we may have, during an active manifestation of specific or tuberculous disease, laryngeal growths simulating papillomata, but they always present a marked difference in their development and course, and are often of temporary duration.

Laryngeal growths are found more frequently in men than in women, probably on account of the greater exposure of the former. They are eminently a disease of middle age, but are sometimes met with during childhood and may even be of congenital origin. Dufour<sup>13</sup> mentions a case of a child born with aphonia, which afterward developed dyspnœa. Twelve months afterward the child died of suffocation and a large papilloma was found obstructing the larynx. Edis<sup>14</sup> also describes a case of a child which died thirty-seven hours after birth from suffocation. The post-mortem showed the larynx almost occluded by a large cystoma.

On the other hand, Summerbrodt<sup>15</sup> removed a mucous polypus from the larynx of a minister 80 years of age, in whom dysphonia had been noticed during only six weeks before.

*Symptomatology.*—As these growths vary in character, size and location, so the symptoms vary within very wide limits. The most common symptom present is change of voice, a condition that was present in 92 of Mackenzie's 100 cases,<sup>10</sup> and in all of Fauvel's 300 cases.

The influence on the voice will depend not only on the size of the tumor but also on its location, a small growth on the vocal cords causing, by its mechanical effect, marked hoarseness, while a much larger tumor on the ary-epiglottic fold, or on the epiglottis, may affect the voice but little.

Dyspnœa was found present in about 8 per cent. of the recorded cases, and is due to the size of the tumor; it is more marked after exertion of any kind. Pain is rarely present in benign growths, but a feeling as of a foreign body in the throat is sometimes complained of, especially if the growth is on the epiglottis.

Dysphagia is present if a growth of sufficient size is situated on the epiglottis or the posterior wall of the larynx. Occasionally, however, cases are met in which no symptoms, referable to the larynx, are complained of.

*Diagnosis and Pathology.*—The diagnosis of a tumor in the larynx is rendered certain only by the use of the laryngoscope. With this the diagnosis usually presents no serious difficulty, although sometimes retarded by the irritability of the patient or an overhanging epiglottis. With patience, however, the cases are exceedingly rare in which the larynx can not be examined, and in difficult cases the examination will be facilitated by the use of a spray of a 5 or 10 per cent. solution of cocaine. In children it is sometimes impossible to use the laryngoscope, and in these cases the finger may be passed carefully into the larynx and thus assist the diagnosis.

The character of the tumor is a much more difficult matter to determine, and is rendered certain only by the microscope, although the clinical appearance, in many cases, is sufficiently characteristic to fix the diagnosis. The eversion of the ventricles of the larynx may simulate a tumor, but this is an exceedingly rare condition. The first case in which this condition was diagnosed during the life of the patient was recorded by Lefferts in 1876, although several cases have since then been reported.

A matter of the first importance is the differentiation of benign from malignant growths. In the latter we have usually an infiltration of the surrounding tissues, pain, ulceration, and, in advanced cases, a cachexia—conditions which are rarely present in benign growths. In doubtful cases, however, a portion of the tumor should be removed and the diagnosis made certain with the microscope.

In order to distinguish benign growths of the larynx from syphilitic condylomata and tubercular laryngitis, Ingalls gives the following useful tables:



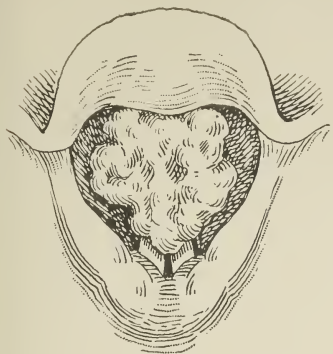


FIG. 6.

PAPILLOMA OF VENTRICULAR BAND, COMPLETELY FILLING VESTIBULE OF LARYNX.



FIG. 7.

CYSTOMA OF LINGUAL SURFACE OF EPIGLOTTIS.

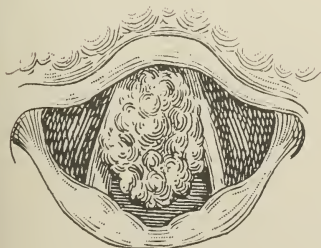


FIG. 8.

MYXOMA OF THE LARYNX.

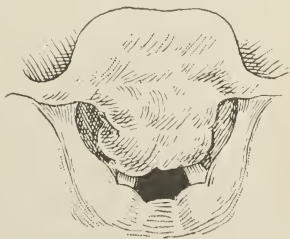


FIG. 9.

CHONDROMA OF EPIGLOTTIS.



## BENIGN GROWTHS OF THE LARYNX.

Commonly in middle and advanced life; occasionally in children.

History of continued local hyperæmia [?]

Usually found upon the vocal cords or ventricular bands.

Distinct line of demarcation between growth and surroundings.

Usually no ulceration present.

Operative measures usually necessary.

## BENIGN GROWTHS OF THE LARYNX.

No cachexia or pulmonary disease.

Absence of pain.

Hyperæmia or normal color of mucous membrane; no ulceration or peculiar swelling.

Benign papillary tumors less sessile than tuberculous granulations; no purulent secretion.

## SYPHILITIC CONDYLOMATA OF THE LARYNX.

Commonly in early and middle life.

History of infection; appearance five or six weeks after inoculation.

Usually found at back part of the larynx.

No line of demarcation.

Ulceration frequently present.

Rapid disappearance under anti-syphilitic treatment and use of local astringents.

## TUBERCULAR LARYNGITIS.

Usually grave constitutional symptoms and signs of associated pulmonary affection.

Usually painful.

Pallor of the mucous membrane, with peculiar swelling of the arytenoids and ulceration.

Tuberculous fungous granulations are of light color; appear as thickenings rather than outgrowths; and are associated with ulceration and purulent secretion.

The benign laryngeal tumors which are most frequently met with are papillomata and fibromata. Besides these, there are found cystomata, lipomata, myxomata, chondromata, angiomata, etc.

Papillomata (Figs. 5 and 6) are found more frequently than other non-malignant tumors of the larynx. In the collective investigation conducted by Semon,<sup>6</sup> of 10,747 benign growths observed in the larynx, 4190, or about 39 per cent., were found to be papillomata. They are found more often in children and young people, and more frequently on the vocal cords, especially the anterior third, although sometimes appearing in other parts of the larynx. They have not, however, been found in the arytenoid commissure, a common site of tubercular, specific and malignant disease—a point of diagnostic importance.

Papillomata vary in size from a scarcely visible growth to one or two centimetres in diameter, are more often sessile than pedunculated, and frequently present a mushroom—or as Stoerk<sup>18</sup> has it, a “cockscorn” appearance. They vary in color from a light pink to a dark red, and sometimes present the whitish appearance of an ordinary wart on the skin. They are sometimes single, but more often multiple.

Papillomata show a marked tendency to recur, but this is not due to any malignancy but from the difficulty of entirely eradicating the morbid tissue, and also, no doubt, from the continuance of the same agency which originally caused the neoplasm. They irritate simply by their presence, and Stoerk<sup>18</sup> records a case in which a papilloma persisted for twenty-six years without setting up any destructive process in the adjacent tissues.

The microscopic appearance of a section of a papilloma is shown in Fig. 12 (from Fauvel). It can be mistaken only for an epithelioma (Fig. 18); in the former, however, the epithelium grows *outward*, but in the latter the epithelium grows *inward*, invading the subjacent tissues.

In regard to the histology of papillomata, Virchow<sup>19</sup> discredits that they are the hypertrophy of single papillas, but claims that they are the proliferation and hardening of the epithelial cells, and that the papilla play but a minor role in the neoplasm. This view is accepted by Gottstein<sup>20</sup> and Rosenthal,<sup>21</sup> but opposed by Ziegler, Birch-Hirschfeld and others.

*Fibromata*.—Next in importance are the fibromata, which are found less often than the papillomata, but more frequently than other non-malignant growths. They are usually rounded, sometimes lobulated, either sessile or pedunculated; in color, from a light pink to dark red, or grayish, and are of more or less firm consistency. They belong to the adult period of life and are found most often on the vocal cords.

Attention has been called by the German laryngologists to the presence of small fibroid nodules frequently observed in the vocal cords of professional singers and others who make an excessive use of the voice. These have been called by Stoerk<sup>18</sup> "singer-nodules" (Saenger Knoten), and are usually found on the pars ligamentosa of the vocal cord. These nodules are sometimes found singly, but frequently a second nodule is formed on the opposite vocal cord, one nodule having a depression into which the second fits. They may persist for years and occasionally disappear spontaneously.

The microscopical appearance of a section of a fibroma is shown in Fig. 13. Histologically it consists of interlacing



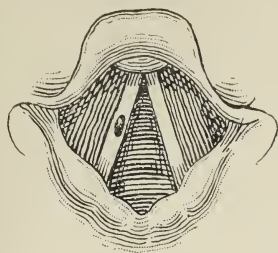


FIG. 10.  
SMALL ANGEIOMA OF RIGHT VOCAL CORD.

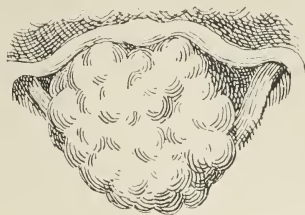


FIG. 11.  
LARGE ADENOMA OF LARYNX.



FIG. 12.—PAPILLOMA, (X 350 DIAM.)



fibres of connective tissue, with sometimes a large, sometimes a small quantity of blood vessels, according to the vascularity of the tumor.

*Cystomata* are generally the result of the occlusion of the duct of a muciparous gland, and are therefore found most frequently where these glands are found and where they may undergo an unrestricted dilatation, as on the lingual surface of the epiglottis, and in the ary-epiglottic folds.

Cystoma are considered by Moure<sup>22</sup> not as frequent as papillomata, but, next to these, the most commonly observed benign growths of the larynx. They are found most frequently on the epiglottis, and in the three cases which have come under my observation the cystomata were found on this portion of the larynx.

Cystomata presents a smooth rounded mass of variable size, which is freely movable and fluctuating under the probe. They are usually easily incised, and, if properly opened, do not recur. They consist of a simple sac, the contents being sometimes clear and serous, and sometimes thick and syrupy.

*Lipomata* of the larynx are of exceedingly rare occurrence, only three or four cases having been recorded. They present the histological appearance of lipomata found in other portions of the body. The most important case is described by von Bruns,<sup>23</sup> in which the neoplasm took its origin from the posterior wall of the larynx. It was bright red, smooth, and of soft, elastic consistency. The tumor was destroyed by the galvano-cautery in fifteen sittings.

*Myxomata.*—With exception of Fauvel,<sup>2</sup> who reported over 15 per cent. (53) of his 300 cases as “mucous polypi (polypes muqueux),” the literature on the subject shows but thirteen reported cases of myxomata. The large number of myxoma found by Fauvel, in comparison with other observers, throws considerable discredit on the diagnosis of these cases, and Bosworth,<sup>24</sup> among others, mentions his doubt as to the true pathological character of the growths.

Myxomata (Fig. 8) have been observed most frequently on the vocal cords, but they have also been found in other parts, as the epiglottis and lateral walls of the larynx.

While they occasionally present the appearance of a fibroid,

they frequently present the characteristic gelatinous appearance of mucous polypi found in the nasal chambers, and their softness allows them to be indented and pressed aside by the approximation of the vocal bands. For this reason they do not interfere with phonation to the extent caused by the firmer variety of tumors.

Microscopically, laryngeal myxomata present the appearance (Fig. 14) of mucous polypi found in other parts; myxomatous cells of various sizes and forms being supported by interlacing fibres of connective tissue.

*Chondromata* (Fig. 9) are cartilaginous tumors growing from previously existing cartilage; that is, from the cricoid, thyroid, arytenoid or epiglottic cartilage. About fifteen cases have been reported.

*Angiomata* (Fig. 10) are vascular tumors, which have occasionally been found in the larynx. Most of the reported cases were found on the vocal cords, and were single, with exception of a case reported by Wolfenden,<sup>25</sup> in which a vascular growth was found on both vocal cords.

Histologically, angiomata are composed of blood vessels loosely held together by connective tissue (Fig. 15). They are dark red or bluish in color, and are liable to hæmorrhage after removal.¶

PROGNOSIS.—In regard to the prognosis, this must be taken in two aspects; one in relation to life and the other in relation to the voice. As regarding life, owing to the slow development of these tumors, the prognosis is generally favorable, as any tendency to suffocation, resulting from the increased size of the tumor, may be obviated by tracheotomy. McBride<sup>9</sup> considers the prognosis as regards life as “invariably favorable,” while Ingalls<sup>17</sup> views these cases, in which the tumors can not be removed, as always dangerous, especially in young children, in which the small size of the larynx and disposition to spasm enhances the danger.

In most cases, these tumors may be removed by the intralaryngeal method, but where this method is not feasible, the prognosis is not so favorable. Thyrotomy offers another method of removing laryngeal tumors inaccessible *per vias naturales*; but this operation is justified only where the life of





FIG. 13.—FIBROMA, (X 350 DIAM.)

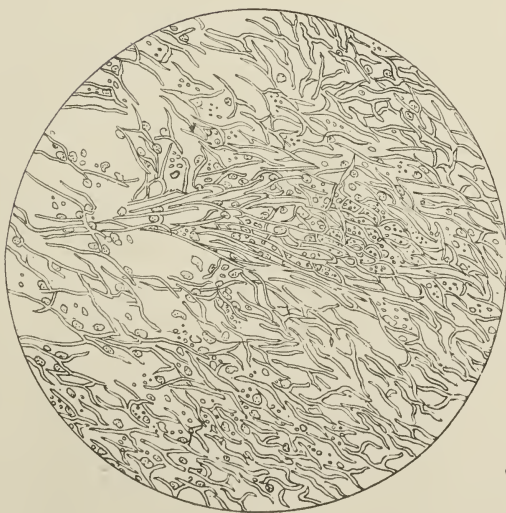


FIG. 14.—MYXOMA, (X 350 DIAM.)



the patient appears in danger of asphyxiation. In most cases in which thyrotomy has been performed the voice has been but little benefited by the operation.

In respect to the voice the prognosis is not so favorable as it is regarding the life of the patient. In cases of pedunculated fibroids the voice is usually entirely restored after removal of the neoplasm, but in cases of broad, sessile and multiple tumors the voice is usually impaired, even where the growths are removed by the endolaryngeal method.

Benign tumors of small size frequently remain for years, or even for life, without giving rise to other symptoms than the impairment of the voice.

It is interesting to note the occasionally observed spontaneous disappearance of laryngeal tumors, six cases having been reported. Of special interest is a case reported by Jurasz<sup>26</sup> of a boy of seven years, who suffered from multiple papillomata of the epiglottis and the interior of the larynx. The tumors were removed by the endolaryngeal method, but recurrence took place, necessitating tracheotomy. Shortly afterward the patient had an attack of enteric fever. When the larynx was examined after convalescence, the papillomata had disappeared.

Gottstein<sup>20</sup> also records a case of a laryngeal polypus in a boy of six years, disappearing shortly after an attack of morbilli.

As already noted, papillomata show an intrinsic tendency to recurrence, probably on account of the extreme difficulty of entirely eradicating the morbid tissue. This tendency of papillomata to proliferation is so marked, that Gerhard<sup>27</sup> states that "their manifold appearance adjoining one another points to a capacity for spreading (*Ausbreitungsfähigkeit*) which seems almost contagious." With exception of the papillomata, recurrence is the exception with benign laryngeal tumors.

Of vital importance is the question as to the degeneration of benign into malignant growths, and the influence of surgical interference on this tendency.

In 1875, Lennox Browne called the attention of the profession to the not infrequent metamorphosis of benign into malignant growths, in consequence of the irritation resulting

from the surgical measures used to remove them. So much was he impressed with the danger of this transformation that he urged surgical interference only in those cases in which the life of the patient was in danger. In his views on this subject, Browne has been to some extent supported by Solis Cohen.

On this subject, the collective investigation conducted by Semon<sup>6</sup> already referred to has been of very great importance.

In this collection, to which 107 observers contributed, there were 2531 cases of benign neoplasms which were not operated upon, malignant degeneration taking place in twelve, or one in 211 cases; while of 8216 cases operated upon, this degeneration took place after operation in thirty-three cases, or one in 249 cases. These results prove conclusively that, while degeneration of benign with malignant growths sometimes takes place, this tendency is not unfavorably influenced by surgical interference.

According to Virchow, this degeneration into malignancy takes place only when there is present a constitutional predisposition to cancer, the results being the same whether surgical interference is adopted or not.

**TREATMENT.**—This may be palliative or radical. The palliative treatment consists in local applications to decrease the hyperæmia or irritation of the larynx, constitutional measures, and in those cases in which the life of the patient is endangered by the size of the tumor, in tracheotomy.

The radical treatment consists of surgical measures of various kinds, for the removal or destruction of the laryngeal growths. These measures may be either intra-laryngeal or extra-laryngeal.

In the extra-laryngeal operation, thyrotomy is performed in some of its modifications. As the operation requires a preliminary tracheotomy, it is not to be recommended except in cases in which life is endangered by the laryngeal growth.

Fortunately most neoplasms of the larynx may be operated upon by the endo-laryngeal method, and many of the major difficulties have been removed or lessened since the introduction of cocaine anæsthesia. The operation, nevertheless, requires considerable manipulative skill and delicacy on the part of the surgeon, and also intelligence and a certain amount of tolerance on the part of the patient.





FIG. 15.—ANGEIOMA, (X 350 DIAM.)

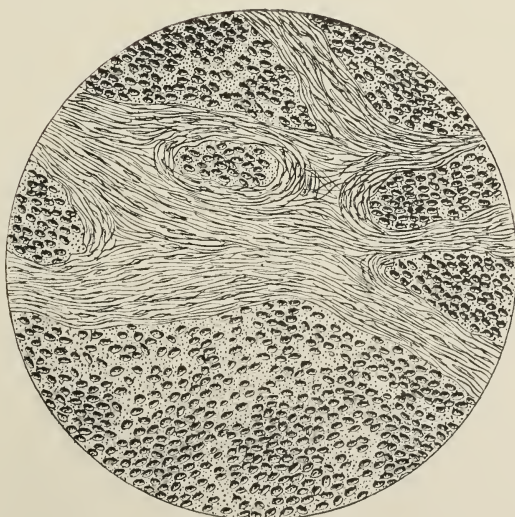


FIG. 16.—SARCOMA, (X 350 DIAM.)



Local anæsthesia is produced by a 10 or 20 per cent. solution of cocaine applied in the form of a spray, and will usually render the larynx sufficiently tolerant to the manipulations of the operator if great care is exercised; but in spite of this a spasm of the glottis is very easily developed by the touch of the instrument.

In children an operation will rarely be tolerated, in spite of cocaine, and in these cases Hooper<sup>28</sup> recommends that, after being etherized, the child be held by the nurse in a sitting position, so that the laryngoscope may be used and the growths removed by forceps.

The removal of tumors from the larynx may be effected by the following methods: evulsion, crushing, excision or incision, curettement, chemical caustics or the electro-cautery.

Evulsion is effected by the various forms of laryngeal forceps, such as Schroetter's (Fig. 19), Rumbold's (Fig. 20), or Mackenzie's (Fig. 21). These forceps may also be used for crushing small tumors. After effective crushing the growths usually lose their vitality, and slough off after a week or ten days. For evulsion, the electric or cold snare (Fig. 22) may also be used, and are especially effective where the tumors are pedunculated.

Excision may be performed with Tobold's knives, which are also effective for incising cystic growths.

Curettement is effected in small growths in which no specific tendency to hæmorrhage exists, and may be done with Heryng's instrument designed for curettement in laryngeal tuberculosis.

Of the chemical cauteries chromic acid is the most useful, and should be applied with a guarded instrument such as Jarvis' (Fig. 23). Ingalls<sup>17</sup> recommends an ordinary laryngeal probe, to which the crystal of chromic acid or nitrate of silver is fused. The caustic is protected by a short piece of rubber tubing securely tied to the probe. For most applications the probe is simply pressed directly against the part to be cauterized, the elasticity of the tube allowing the caustic to protrude. For lateral application a piece is cut from the side of the tube.

For small sessile tumors, and sometimes also for tumors of larger growth, the electro-cautery offers especial advantages.

It may be carried into the larynx while cold, and heated only when we are sure that the point is in the proper position. In order to facilitate the rapid heating and cooling of the instrument the platinum point should be made very thin.

As the application of the electro-cautery requires the greatest delicacy, it is important that the closure of the circuit should be made *with the foot* and *not with the fingers*, as even the slightest movement will interfere with the skilful manipulation of the cautery. An effective cautery battery with foot switch is elsewhere described.<sup>29</sup>

In cases of soft pedunculated growths of the vocal bands, Voltolini's<sup>30</sup> method is also useful. For this, a sponge is firmly secured to the end of a probang, which is passed into the larynx with a rapid up and down movement, sometimes resulting in tearing the growths from their attachment.

In operating for laryngeal tumors, the patient should be seated in a chair with an upright back and head support, and directed to hold out his tongue with a napkin. The larynx is first sprayed with a 5 to 10 per cent. solution of cocaine, and if necessary a 20 per cent. solution may afterward be applied with cotton secured to a laryngeal applicator.

A probe is then passed into the larynx, with full illumination from the head-mirror, in order to ascertain if the anæsthesia is sufficient, and also to obtain fuller information as to the character, position and attachment of the tumor.

In some cases the necessary degree of tolerance is soon attained by the patient, but in most cases it will be found necessary to gradually accustom the patient to the required laryngeal manipulations by repeated sittings.

When the local anæsthesia is sufficient, the instrument to be used is passed into the fauces of the patient until it appears in the laryngeal mirror. The point is then passed downward into the larynx, being careful to avoid touching any unnecessary part, as even the cocaine does not prevent a certain amount of reflex spasm, which would prevent the operator from following the point of the instrument in the mirror. Full illumination, by means of the head-mirror, and preferably from sunlight or electric light, is necessary for the proper management of the operation.





FIG. 17.—CARCINOMA, (X 350 DIAM.)

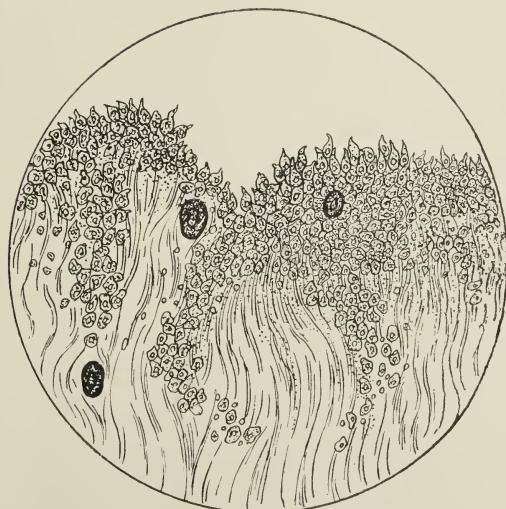


FIG. 18.—EPITHELIOMA, (X 350 DIAM.)



The choice of instruments will depend upon the size, conformation and location of the tumor. Pedunculatory growths are more conveniently removed with the snare, the electric snare being preferred if the pedicle is large or very firm, or danger of hæmorrhage is anticipated.

Small growths may be removed by evulsion, or crushed, or they may be destroyed with the galvano-cautery. The electro-cautery has so many advantages over the chemical cauteries that I have but rarely made use of the latter.

It should be borne in mind that in certain cases surgical interference is not necessary. A small laryngeal growth in a patient, who suffers no inconvenience from it, or in one who is old or has little occasion to use his voice, should not be disturbed. The case should simply be occasionally examined, so that any increase in size, which might prove dangerous, may be remedied by proper surgical measures.

CASE I (Fig. 5). Edgar M., æt. 14 years, suffers from a husky voice, but no cough or pain. About seven years ago patient had a severe attack of enteritis, from which it was thought that he would not recover. After convalescence it was found that the patient could only speak in a husky whisper. There was no cough, but a slight degree of dyspnœa after severe exertion. As he grew older, the tendency to dyspnœa disappeared and he was able to phonate, but always in a husky voice.

Laryngoscopic examination shows multiple papillomata of the larynx. Both vocal cords are fringed with the growths, which are whitish in color, and in the anterior commissure is a pedunculated papilloma, of a light pink color, which protrudes into the glottic space.

This case has been intubated with O'Dwyer's tubes about fifty times in order to cause absorption of the growths from pressure. Some of the growths have been destroyed by crushing, several small pieces have been evulsed and the probang and sponge, according to Voltolini's method, has been passed a number of times. Although the growth appears to have been arrested, the appearance of the larynx and the sound of the voice have not materially improved.

The reason for this is the markedly overhanging epiglottis

and the extreme nervousness of the patient, which makes any surgical interference very difficult.

CASE II (Figs. 1, 2 and 3). J. H. R., æt. 25, consulted me for hoarseness and cough, which had persisted for six months. Six months before, he saved a boy from drowning by jumping into the Mississippi river and swimming with the boy to land. He caught cold at the time and has since then suffered from cough and hoarseness. He had been treated for bronchitis.

Physical examination of the chest gave negative results.

By the laryngeal mirror a small pedunculated tumor, springing from lower surface of the left vocal cord, could be seen, during gentle breathing, in the anterior commissure (Fig. 1), which disappeared from view on the approximation of the vocal cords during gentle phonation (Fig. 2), but which suddenly reappeared on strong phonation (Fig. 3).

The larynx having been anæsthetized with a spray of a 10 per cent. solution of cocaine, the cold snare (Fig. 22) was carefully passed into larynx, and, its course being watched in the laryngeal mirror, the loop passed over the tumor. The snare was then tightened and the instrument was removed with the tumor still held by the loop. The voice of the patient was at once restored, and a laryngeal examination showed that the tumor had been entirely removed.

Six months later the voice was still clear and the cough had not returned.

Dr. A. McShane, who made a pathological examination of the tumor for me, reports it to be a fibroma containing large cavernous vessels, as seen in the accompanying figure.

CASE III (Fig. 7). George E. H., æt. 27, a singer of considerable capacity, consulted me in regard to hoarseness and the feeling of a foreign body in the throat.

Examination showed marked hypertrophy of the faucial tonsils, chronic laryngitis and a cystic tumor of the lingual surface of the epiglottis (Fig. 7).

The cystoma was first incised, and the sac cauterized. A week later the faucial tonsils were removed with the electric snare. Three weeks later the part had healed and no return of the growth has since occurred.



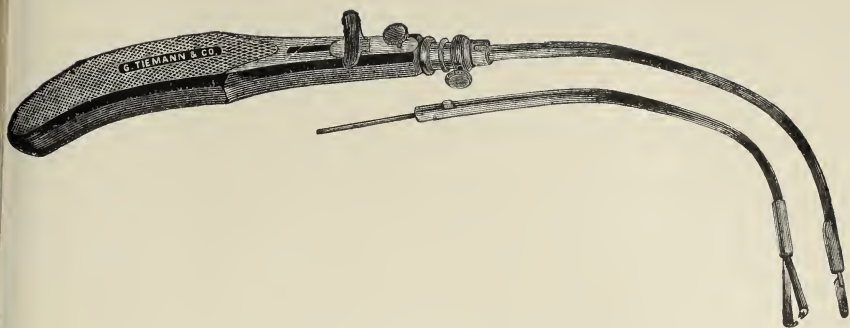


FIG. 19.—SCHROETTER'S LARYNGEAL FORCEPS.

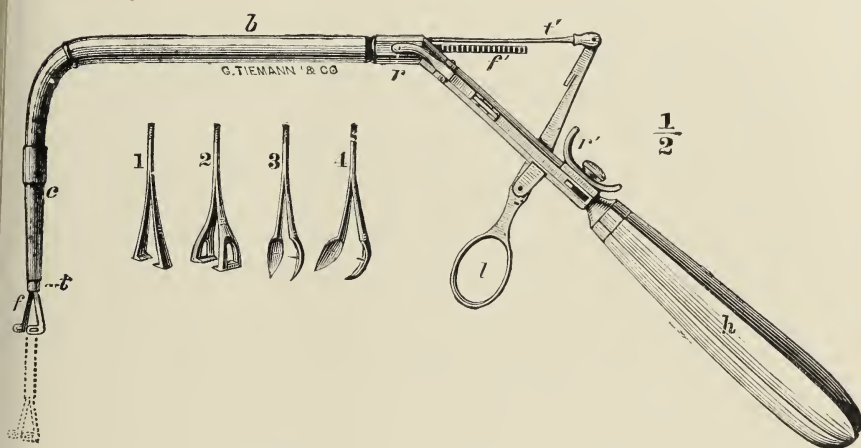


FIG. 20.—RUMBOLD'S LARYNGEAL FORCEPS.



FIG. 21.—MACKENZIE'S THROAT FORCEPS.



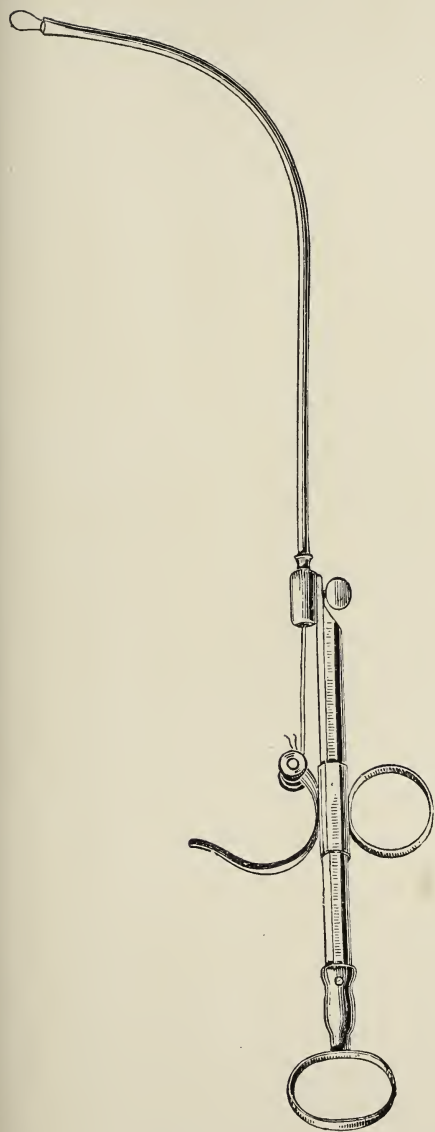


FIG. 22.  
LARYNGEAL SNARE.

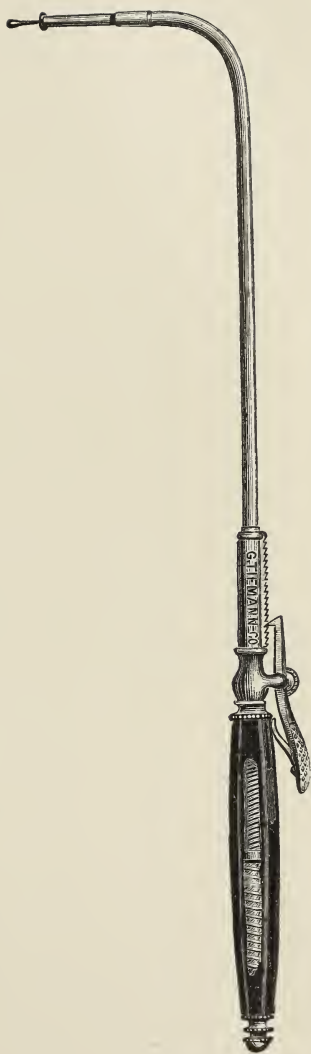


FIG. 23.  
JARVIS' LARYNGEAL APPLICATOR.





In addition to this case of cystoma I saw a small cyst of the epiglottis in the practice of Dr. A. W. deRoaldes, in which the patient complained of a feeling of a foreign body in the throat; and, also, one case in the practice of Dr. Augustus McShane, in which the cyst covered the larger portion of the lingual surface of the epiglottis, giving rise to dysphagia. In both cases the cyts were destroyed with the electro-cautery.

CASE IV (Fig. 10). Henry D., æt. 36, consulted me for a chronic cough. Examination disclosed a dislocation and thickening of the triangular cartilage of the septum, causing marked stenosis, and chronic laryngitis. In the middle of the upper surface of the left vocal cord could be seen a dark red vascular tumor, about one and a half millimetres in diameter.

After the nasal stenosis had been remedied by proper surgical means the electrocautery, heated to a dull red, was passed into the previously cocaineized larynx, and applied to the tumor, which was destroyed. There was no hæmorrhage. Five months later, the growth had not reappeared; the patient had gained twelve pounds, and had had no cough for three months.

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# ABSTRACT OF A LECTURE ON TRAUMATISMS AND TRAUMATIC ANEURISMS OF THE VERTEBRAL ARTERY, AND THEIR TREATMENT.\*

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The operative surgery of the vertebral artery may be truly said to be an acquisition of the latter part of this century. Up to 1860 few surgeons had given any personal attention to the subject. The names of Dietrich, Velpeau, Nunziante-Ypolito, Sedillot, Fraeys, Chassaignac, Laudi, Respoli, Maisonneuve and Barbieri would comprise a list of the important contributors, the majority of the leading contemporary teachers believing that the vertebral artery was of scarcely any practical interest to the surgeon, and barely mentioned it in their texts; A. Cooper, Lisfranc, Vidal, Malgaigne, Guerin, Beraud and Folin being notable examples of this indifference.

In 1834 Sanson, in describing a fatal case of gunshot injury of the vertebral artery that had been attended at the Hotel Dieu of Paris, said: "The vertebral artery can not be ligated on account of its great depth, nor compressed because of the osseous canal which protects it; it can still less be cauterized. The wounds of this vessel are beyond the resources of art." (*Traité des hemorrhagies traumatiques*, Paris, p. 752).

And the classical teaching of the day agreed with him until 1853, when the accomplished Maisonneuve, assisted by Favrot, succeeded in ligating the vertebral artery in a case of gunshot wound of the neck.

Various methods for the systematic and typical ligation of the vertebral had been suggested by Dietrich, Respoli, Ypolito, Fraeys, and Chassaignac, which had received the attention of Velpeau, but no one had yet given a demonstration of the practicability of the typical ligation of the vertebral until Andrew W. Smythe, of New Orleans, successfully performed the operation on July 8, 1864, with the view of cutting off the collateral circulation to a subclavian aneurism through the circle of Willis. This was the patient Banks, on whom, several

\* Lecture delivered before the Post-Graduate Medical School of Chicago, August 9, 1893. Abstract by S. C. Stanton, M. D., of Chicago.

weeks previously, he had ligated the innominate artery with complete success for the first time in the history of surgery.

After Smythe's brilliant demonstration the operation immediately became one of the classical acquisitions of surgery, and the comparative facility and benignity of the double ligation has been shown (apart from traumatic or surgical conditions) by the numerous but ineffectual attempts made to cure epilepsy by the ligation of both vertebrals by Alexander, of Liverpool, Bernays, of St. Louis, and Chalot, of Toulouse, France.

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The first case of lesion or operation connected with the vertebral artery that is recorded in the reports of the New Orleans Charity Hospital, after the memorable operation by Smythe in 1864, is that of a young mulatto boy, who on July 6, 1888, was brought to my service in that institution for the relief of a traumatic aneurism of the vertebral artery resulting from a gunshot wound in the upper part of the neck. Upon examination a traumatic aneurism of the right vertebral artery was found, which occupied the sub-occipital triangle and involved the artery in the atlo-axoid space. The patient was at once put to bed and a three-pound weight applied directly over the tumor and held *in situ* with an elastic bandage round the forehead.

After four days, as little impression had been made upon the tumor by the pressure, two long electrolytic needles connected with the negative pole of a galvanic battery were introduced as deeply as possible into the softest parts of the tumor and the current furnished by twelve cells applied. This application lasted about an hour, without any perceptible results. Two days later the tumor was incised and the sac extirpated, and the bleeding point plugged with small aseptic sponges, over which a thick packing of iodoform gauze was applied, a careful sublimate external dressing applied, and the whole firmly held in place by an elastic woven bandage wound over the forehead and neck. Eleven days after the operation the wound was entirely healed, and three weeks later the patient was discharged from the hospital entirely well.

Eleven months afterward the patient returned to the hos-

pital with the wound entirely cicatrized and entirely free from any aneurismal lesion.

Injuries of the vertebral artery are, fortunately, of great rarity. A glance at the surgical anatomy of the vessel will at once remind us of the magnitude of the technical difficulties in the way of its atypical ligation, and of the errors of diagnosis to be incurred owing to the proximity of so many large arterial trunks. Furthermore, the unique termination of the vertebral artery in the cranial cavity, where, anastomosing directly with its fellow artery, it becomes continuous with the carotid system through the circle of Willis, will convince us of the unreliability of either proximate or distant ligation of this artery as a permanent means of controlling the blood supply of any aneurismal tumor that may be situated between either one of its cervical extremes.

One of the initial difficulties usually presented by aneurisms of the cervical portion of the vertebral artery is that of differential diagnosis from similar tumors connected with the carotid and its branches. In  $44\frac{2}{3}$  per cent. of the recorded traumatisms of the vertebral artery, hemostasis was attempted by ligation of the carotid alone, or the carotid together with some other artery (inferior "thyroid, Maisonneuve, occipital, Fenger), the error being recognized only *post operationem*.

After searching all the available literature, I have succeeded in collecting fifty-three cases of lesions of the vertebral artery, which I have divided into three groups.

1. Endo-cranial aneurisms, eleven cases.
2. Extra-cranial or cervical aneurisms, twenty cases.
3. Wounds or lesions of the artery involving its surgical or extra-cranial portion, twenty-two cases.

Out of this total of fifty-three cases we find that forty-five died in direct consequence of the lesion of the vertebral artery or complicating circumstances associated with it.

The cases of endo-cranial aneurism resulted, with one exception, from the degenerative changes in the endo-cranial arteries and these cases, without exception, ended fatally.

Of the twenty cervical aneurisms six recovered, leaving a mortality of 70 per cent. for this class of injuries. These aneurisms, with one exception, were traumatic. The non-



aneurismal injuries, of which twenty-two are recorded, were, with the exception of three cases, the result of traumatism, chiefly stab, puncture or gunshot wounds. Of these twenty-two cases only two recovered, leaving a mortality of 90 per cent.

If we add the cases under group 2 to the cases under group 3, we will then have forty-one cases of wounds, with a total mortality of 80.69 per cent., and with recoveries amounting to 19.31 per cent.

Upon investigation of the immediate causes of death in the forty-three tabulated cases we will readily recognize five essential factors, which, in order of their frequency and importance, are as follows: (1) hemorrhage, (2) shock, (3) sepsis, (4) exhaustion, (5) cerebral complications.

A traumatic aneurism of the vertebral artery occurs only as a sequel to the original injury, but the clinical difference between a primary bleeding wound of this artery and the false aneurism that may follow it, is of sufficient practical interest in the treatment to justify a separate consideration of the two conditions. While the prognosis of traumatic aneurism is very grave, yet the percentage of recoveries is greater than the primary bleeding injuries of this artery; in a tabulated record of twenty cases of traumatic aneurism, six patients, or 30 per cent., recovered, while in a collection of twenty-two cases of primary non-aneurismal injuries, only two, or 9.2 per cent., recovered.

The six successful cases were as follows:

1. Mœbus, 1827. Treatment: Rest and local application of ice poultices.

2. Warren Stone, of New Orleans, 1849. Treatment: Opening of the sac and plugging of the wounded artery.

3. Kocher, 1872. Treatment: Incision of the sac and application of styptic plug into the orifice of the vertebral canal of the atlas.

4. Weir, of New York, 1884. Treatment: Digital and direct compression.

5. Christian Fenger, of Chicago, 1881. Treatment: Ligation of common carotid and occipital; opening of the entire sac; ligation of the vertebral artery between the axis and atlas.

In this case the vertebral artery was as large as the internal carotid.

6. Rudolph Matas, of New Orleans, 1888. Treatment: Incision; extirpation of sac; plugging of bleeding points.

#### CONCLUSION.

##### *A.—Treatment of Traumatic Aneurisms.*

1. There are certain favorable cases (Mœbus, Weir) of traumatic aneurism in the upper and more superficial portion of the artery in which recovery is possible *without operative interference*; rest, direct compression and cold, being apparently sufficient to arrest the circulation in the tumor.

2. That in every case when the danger of rupture of the sac is not immediate, good results may be expected, if only as adjuvants to future radical treatment, from the systematic application of cold, local and general rest, using for direct compression ice bags containing shot, which are easily adapted to the contour of the affected region.

3. That in the majority of cases, the natural tendency of the aneurism is to progress rapidly to a fatal termination in spite of the preceding measures, the sac usually rupturing in the direction of the weakest point, viz.: the track of the wound that caused it.

4. That this tendency to spontaneous rupture is markedly favored by the increased tension caused by the ligation of the carotid trunks, so frequently and unfortunately done under the impression of a mistaken diagnosis.

5. That this deplorable result should always be avoided in case of a doubt by a careful observation of the effects of temporary compression of the carotid upon the circulation of the tumor before applying the definitive ligature.

6. That in almost all cases but one (Fenger's case), in which a deliberate and prepared attempt has been made to ligate the artery in the aneurismal region, or at the bleeding point, the efforts of the operator have been frustrated by the copiousness of the hæmorrhage, and temporary plugging of the bleeding spot, and, at times, the more accurate plugging of the arterio-vertebral canal, have been forced upon the surgeon as methods of necessity instead of the methods of election.

7. That, fortunately, this method of plugging, when combined with free exposure of the bleeding region, and clearing out of the clots, has thus far given the most encouraging results, and that the more aseptic and non-irritating the material used in plugging the greater the simplicity of the after-career of the case, and, judging by the especially fortunate or excellent results which were obtained by Warren Stone, 1847, with plain charpie lint, J. Mason Warren of Boston with sponges, by King of Hull with oiled lint, by Küster with iodoform gauze, by Simes with plain lint, and my own experience with well sterilized sponges reinforced by iodoform gauze, it would not be necessary to resort to styptic plugs (as in Lucke's or Kocher's cases), which have a tendency to inflame a wound and render its aseptic management most difficult. In addition, as in the writer's case, small fragments of sterilized sponge, if they are used only in plugging the canals, have the advantage that they may be allowed to remain *permanently* in the wound, where they are incorporated as grafts by the living tissues.

8. That the use of coagulant injections is especially to be condemned; the perchloride of iron (as in Lucke's case) having proved most pernicious. Ergotin (Langenbeck) injected into the periphery of the sac may aid in effecting a cure, but it is exceedingly doubtful if this material will distinguish itself more favorably in this region than in the treatment of other aneurisms; while the newly isolated physiological fibrin ferments (Wright) may prove less irritating, they will be likewise open to objection from the mechanical standpoint (embolism). Possibly electrolysis and Macewen's method of securing the formation of white thrombi by "needling" may claim some success in the future, but it is very doubtful, and the most authorized opinion at present would point to:

9. The acceptance of the method of Antyllus, modified by the conditions of modern surgery, and the only reliable, if still dangerous, method of dealing with this always formidable condition, at least in the majority of cases. If this operation is decided upon, every preparation should be made to meet all emergencies. Saline infusion may be required, but a good supply of sterilized sponges, iodoform gauze, and long-handled,

strong hemostatic (hysterectomy) forceps will be most useful, the latter especially in grasping bleeding points, or in applying strong pressure to the deep and unusually rigid tissues, in which they are found. The gouge, chisel or "rongeur" forceps should not be forgotten; the rapid resection of a part of the transverse process may be required, in order to permanently secure the artery, though, usually, the plugging of the arterio-vertebral canal alone will be quite sufficient to accomplish permanent hemostasis, and should always be attempted first, if only as a provisional measure, or in cases in which the exhausted condition of the patient will not permit more radical procedures.

10. In the extremely rare cases of idiopathic cervical aneurism, and in the circumscribed traumatic aneurisms that are situated high up in the posterior portion of the neck, and which would not be encroached upon by any of the classical incisions for the ligation of the vertebral artery at its origin. A ligation on the Hunterian principle might be attempted with some prospect of success, especially if cold, pressure and rest were resorted to as adjuvants in the treatment. While the collateral flow from the circle of Willis is very rapidly re-established, more so even in the vertebral circuit than in that of the carotid, it is nevertheless possible that the contents of the sac may be completely coagulated before this collateral supply has been re-established.

11. In aneurisms that are situated lower in the neck, the Hunterian ligation, if applied by any of the classical incisions for securing the vertebral at its origin, will almost certainly end in an antyllian operation, for it will be impossible to reach the trunk of the artery without involving the sac in the incision.

When the aneurism is well circumscribed, is high up in the neck, and ordinary local treatment has failed, and the operator decides upon the method of Antyllus as a last resort, then it is justifiable to make an incision parallel with the anterior border of the sterno-mastoid, and, following the lines mapped out by Fraeys and Chassaignac, reach the vertebral below the anterior tubercle of the sixth cervical transverse process, and under the sheath of the carotid compress the vertebral before it enters the foramen, with the finger of an assistant. In that way the arterio-vertebral circulation will be temporarily arrest-



ed until the wounded artery has been definitely secured at the bottom of the aneurismal cavity. By this procedure there will be much less traumatism inflicted on the weakened patient than if a formal ligation had been attempted. In addition the danger of secondary cerebral complication will be lessened.

### *B.—Treatment of Primary Bleeding.*

1. In the management of bleeding wounds (non-aneurismal) of the vertebral artery, the principles of treatment are practically the same as in those which guide the surgeon in the open or Antyllian method of attacking the traumatic aneurisms of this artery.

2. In some rare cases the nature of the injury is such that a direct attack on the bleeding point is practically impossible. This is notably true of those complicated gunshot injuries in which the missile has penetrated through the mouth and the blood is flowing into the pharyngeal space. In those cases there is usually an associated wound of one of the carotid branches, especially the internal carotid, and the hæmorrhage is so violent that death takes place before any assistance can be rendered. The differential diagnosis can not be attempted under these circumstances, and as plugging through the mouth is impracticable, the only hope for the patient lies in the immediate but provisional control of both the common carotid and the vertebral artery of the corresponding side, with a view of cutting off the entire arterial supply from the injured region. This result can be obtained without much difficulty by rapidly exposing the carotid sheath at the point of election and passing a ligature round the artery, which is not to be closed, however, but should be transferred to an assistant, who can control the circulation of the artery by simply pulling on the loop; the operator then presses with his finger in the depth of the wound at a point just below the anterior tubercle of the sixth cervical vertebra, and in this way arrests the flow from the vertebral artery. A complete control of the two vessels is thereby obtained, the hæmorrhage is arrested and the differential diagnosis can be undertaken with more deliberation. The definitive ligature may then be applied to either one of the exposed arteries, or to both if necessary. In cases complicated with

an injury of the internal jugular, high in the neck, and communicating with the pharynx, the resources of surgery are reduced to a minimum. But the traumatism is so great that the shock of injury alone will often kill the patient almost instantaneously, and if this is not the case, the bleeding will be so profuse that life will ebb out long before any efficient assistance can be rendered.

3. In the more common cases, the difficulties and dangers are greatest in the lower cervical course of the artery, before its entrance into the foramen of the sixth cervical vertebra, owing to the immediate proximity of vital structures, especially on the left side. Wounds of this portion are generally fatal before the surgeon is called upon to deal with them, owing to the rapidly lethal effects of associated hæmorrhage from the carotid, and subclavian arteries and corresponding veins. In the wounds of this, and the remainder of the cervical portion of the vertebral artery, the fundamental maxim in the treatment of hæmorrhage—viz.: “To control the artery while bleeding and at the bleeding point,” imposes itself as a first duty. This control can only be effected by the method previously indicated when dealing with traumatic aneurism, and may be finally summarized in a general way as follows:

1. If allowed by the position of the wound, deep and strong pressure should be made by an assistant, below the carotid tubercle, with a view of compressing the vertebral at this point.

2. The wound should be freely enlarged, in order to more directly expose the artery.

3. Direct pressure with the finger in the wound should be applied to the bleeding point.

4. Pressure on the bleeding point with strong hemostatic (hysterectomy) forceps, holding a small sterilized sponge, or by actually clamping the bleeding point *en masse* as a substitute for the finger.

5. Denudation or exposure of the artery in the inter-transverse space, or, if necessary, by biting with “rongeur” forceps, or gouging out the antero-external portion of the bony canal in which the artery is contained. This last procedure is perfectly practicable in any part of the vertebral

canal, provided a free exposure of the transverse process is obtained and the bleeding be provisionally controlled by digital or forci-pressure.

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The end is now reached, and with it my pleasant task completed—in all but one respect, and that is to thank you, gentlemen of the class, most heartily for your kind and appreciative attention. To the faculty of the Post-Graduate Medical School I also owe more than one word of thankful appreciation, not only for affording me the honorable privilege of addressing so intelligent and cultured an audience, but for the rare and significant distinction, which I prize dearly, of inviting me, a medical teacher from the extreme South, to participate in the national and international course of Post-Graduate lectures—a distinction which, I trust, not only opens a broad view of the possibilities and amenities of Post-Graduate Medical instruction in the future, but once more confirms, most emphatically, the fact that the great Columbian festival in Chicago has served to signalize not only the material, but intellectual solidity of the people of our own great republic without regard for sectional lines or geographical limitations.

Allow me, finally, to hope, with my parting salutation, that the short time we have spent together has been well occupied, and that the teachings which I have endeavored to inculcate to-day may reward you for their remembrance by their practical utility in the hour of need.

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## Proceedings of Societies.

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### ORLEANS PARISH MEDICAL SOCIETY.

NEW ORLEANS, October 14, 1893.

The regular monthly meeting of the Orleans Parish Medical Association was called to order by Vice President Lowe. There were sixteen members present. The minutes of the preceding meeting were read and approved. At Dr. Chas-saignac's request a slight modification was made in his remarks about Dr. Scheppe-grell's case.

Dr. Geo. Stumpf was recommended for membership by Drs. Gabert and Lowe.

Dr. Martin then read his paper on

LONG CONTINUED FEVERS IN LOUISIANA.

My desire this evening is to prompt a discussion on a subject which, though not entirely new to the society, is, I believe, most deserving of consideration. I have had to cope recently with a type of fever foreign to any represented in our text books. From older practitioners I learn that these slow fevers of Louisiana, which resist all forms of treatment, and which are sometimes more aggravated than benefited by quinine, are of recent origin in this State. With the many forms of malarial fever we are thoroughly conversant, though it is my belief that the prefix "malaria" is too often used to supply a want in the absence of a diagnosis. In my own brief experience I have known a case of abscess of the liver to have been diagnosed and treated for six weeks as one of malarial remittent fever. Also, a case of pelvic cellulitis, notwithstanding the local pain, was diagnosed as malaria. In such cases, however, a correct solution of the case is generally arrived at before any serious trouble arises. But an error of this kind in the diagnosis of typhoid fever would, at least in my hands, prove fatal. We should bear in mind that, notwithstanding the teachings of our professors, typhoid fever does exist in this community, and to such an extent that it is time for us to eradicate from our minds old prejudices so thoroughly instilled in past years, for there can no longer be a doubt of its existence, and to the extent that we should be prepared to meet it at any time.

Is it not possible that many of the so-called cases of typho-malaria are modified forms of typhoid? May not climatic influences moderate the disease, for certain it is that few, if any, typical cases have ever originated in our city. Malarial and typhoid fevers are distant forms and easily diagnosed, making the treatment clear. But another form of continued fever exists, so different in its origin, its symptoms and its cause from either of these two forms that I have deemed it my duty to introduce the subject here to-night and to ask the members of this society to give the matter their time and consideration. This fever, so I have observed, is usually ushered in without any premonitory symptoms. The patient usually complains of feeling dull; the tongue may or may not be coated; the bowels costive, loss of appetite; sometimes nausea and slight elevation of temperature; seldom any functional disturbance. The temperature will vary from 99 degrees to 103 degrees, and the fever will continue from three to nine weeks. Patients are not



greatly exhausted by the fever and are sometimes able to keep about their work. One case which I had under treatment, a robust person, was never compelled to lie down during the day, but spent the time in a large arm-chair. The fever lasted ten weeks. In this case, I believe its long continuance was partly due to malnutrition. Nausea complicated the treatment, and the question of treatment became a serious problem, until I had recourse to raw eggs and sherry; this constituted the nourishment during the day, the patient taking as many as half a dozen eggs in twelve hours. At night I gave mulled milk, which proved a soothing and nutritious beverage. Through the entire course of her illness I was at a loss to detect any one symptom sufficiently marked to point to a diagnosis. If malarial, it was not typical in appearance.

For some time I was inclined to believe it septic, but a most careful examination of every organ in the body, repeated several times, failed to substantiate this belief. As regards treatment, I have employed every form known to science without success. Quinine is inert, and antipyretics give but temporary relief. The case will run its course and must be treated symptomatically. My method of managing these cases has always been purely symptomatic, not expectant—relieve pain, regulate the bowels, reduce the temperature, tempt the appetite and trust to luck.

If there are any present whose misfortune it has been to meet with such cases, I trust the results have been more gratifying, and that they have settled upon a diagnosis and a formulated plan of treatment.

I have prepared to-night, to present for your consideration, a number of charts showing the course of the various forms of continued fevers rather than monopolize your time with a detailed account of these cases. I will now submit these charts, which I have borrowed from the New Orleans Sanitarium, believing they will prove of some interest.

#### DISCUSSION.

After Dr. Martin had read his paper he presented charts representing the three types of fevers of which he had spoken—malarial, typhoid, and the particular type of remittent fever of which he had just spoken, which he said some of his confreres of the country called "slow fever." After the charts had been examined by the gentlemen present Dr. Martin said that as the subject of typhoid fever had been brought up at the last meeting, he had with him a chart of a typhoid case, regarding which he did not think it amiss to say something. The patient had been brought from Litcher, a saw-mill

town some distance above New Orleans. Was taken sick ten days before being brought to the Charity Hospital, where he was received May 21, and the case diagnosed as remittent fever. On May 27 he was admitted to the sanitarium. Up to that time had been taking quinine, and did so after the case was diagnosed as typhoid fever. He became delirious on the 28th and remained so for ten days. Pulse was very rapid and there were marked sordes, a thing you do not often see in remittent fever. Bowels very loose, with bloody stools. The treatment was symptomatic. A little antifebrine was given in whiskey to reduce the temperature—given in simple powder it distressed the patient too much. Strychnine was given as a tonic—that was really the treatment all the way through—antipyretics and strychnine, and kept on a milk diet. I believe, too, some ten drops of hydrochloric acid were given three times a day. Hæmorrhages were treated with injections of laudanum, which seemed to have a good effect.

Dr. Lowe (in the chair) referred to the importance of the matter and said he hoped every member of the society would have something to say on the subject, and called upon Dr. Sexton to open the discussion.

Mr. Sexton said: Dr. Martin has presented a very interesting subject at a very opportune time. The long continued fevers are on the increase in New Orleans, and every practitioner has more or less of such cases to deal with throughout the entire year. When a student at college I remember that Dr. Bemiss in discussing this subject taught us that two separate and distinct poisons or morbid processes might exist in the system at the same time, each one modifying the other in its clinical history, so as to make a hybrid disease which was neither clear-cut malaria nor the classical typhoid of the older authors. During my practice in Mississippi, as well as in New Orleans, I have had considerable to do with these long continued fevers or the so-called typho-malaria of Wood. I have always considered it a mixed poison of the malarial element, whatever that may be, plus some septic infection.

The majority of cases coming under my observation presented a mixed clinical history, the malarial element of every other day exacerbations, while the septic and enteric symptoms were overshadowed or masked by the more powerful malarial poison. In other cases just the reverse was true.

In my experience with disease I have noticed that real, clear-cut diagnosis or typical symptoms of typhoid are the exception and not the rule. In a considerable experience with typhoid fever, I hardly recall a single case in which all the symptoms of the older writers on typhoid fever are to be

found. Either the tongue does not present the characteristic symptoms, or diarrhœa or petechial spots are absent.

May it not also be true that malaria may become modified by the hygienic surroundings and changed conditions of the development of our city? If we were all practical microscopists when such cases come under our care, before beginning the treatment we should examine the blood for Laveran's plas-modium malarix, which being found (if it be the real cause of malaria), would clearly indicate an anti-malarial course of treatment, which would be quite different if we should find the Eberth's bacillus. But whether these microscopic changes or bacilli are the causes or the results of the disease is not clear, at least to some of us.

I have often been puzzled in trying to think out the etiological process of this disease. Investigators tell us that one case of typhoid fever must originate from another, that the dejecta and infected water play the principal part in the spread of typhoid fever, so just how to account for the typhoid condition in these long continued fevers having no connection whatever with other cases of fever has been very puzzling to me. Not more so, however, than the resistance of these fevers to the action of quinine, though they possessed a distinctive intermittent clinical history—better one day and worse the next. That the fever has a malarial element in it is proven by the fact that it is most prevalent in malarial districts with every-other-day exacerbations. I have always considered it a non-contagious disease, having seen numerous cases where only one member of a large family had been affected with it. In its morbid anatomy it partakes both of the nature of typhoid and malarial fever. In substantiation of the fact that it is malarial fever, plus some other septic infection, I will call the attention of the society to the fact that it is most frequently found where such unhygienic conditions as over-crowding, bad ventilation, sewer gas, bad food and fruits from the market are used. In our city practice, perhaps, sewer gas more often represents the plus element in the etiology of the fever than any other of the causes mentioned.

With regard to its treatment I have usually met symptoms as they arose. Constipation in the beginning of the fever is the rule; to combat this I give from two and one-half to five grains each of calomel and soda at bedtime, provided the patient has never been salivated. In this event I use phosphate of soda, cascara sagrada or some vegetable pill. Later on in the disease I am more cautious about the use of purgatives, and have found good results by flushing out the bowels with antiseptic douches. Pyrexia has to be combated, and I have usually accomplished

this by sponging with tepid or cold water, rolling in wet pack and giving freely of cold water both by mouth and rectum, if agreeable to the patient. When the fever is high I usually keep the head enveloped in iced towels. An admirable diaphoretic mixture is made up of tincture of aconite, spirits of nitre and syrup of squills. More recent remedies for pyrexia belong to the coal tar group, one of which is about as efficacious as the other. I only give such remedies when the temperature is high, usually combining them with a toddy, and not repeating very often.

For the tonic effect of the quinine I usually give three capsules daily, combined with acetanilide or phenacetine to prevent disagreeable head symptoms and to meet the neuralgic element in the disease. I place more dependence upon the sponging and cold baths, however, than any internal medication.

Large doses of quinine, while they may act as an antipyretic, will not abort the fever, and are damaging to the nervous system, hence should not be tried. As an intestinal antiseptic I use the emulsions of turpentine with salol or salicylate of bismuth; camphorated tincture of opium is added if there is exhausting diarrhœa. Internal hæmorrhages are best controlled by some preparation of opium, and the ice bag. I have had good results from phospho-muriate of quinine compound with arsenic, as a general tonic, repeated four or five times daily.

Dieting is very important, and should be confined to milk, broths, soups and gruel, nourishing in quality, small in quantity, often repeated. Under this plan of treatment I have had perhaps a mortality of about 4 per cent. in the treatment of a large number of cases.

Dr. Dupaquier—It is much to be regretted that the discussion is based on mere conjectures, as we have no record of investigations on the bacteriology and anatomo-pathology of these fevers, the only positive means of determining their nature. But think of the technical difficulties attending these researches. The clinical, like the pathological phase, is undetermined.

The long-continued fever of Louisiana has no definite type; it appears to be *sui generis*.

If it is typhoid, it is very much disfigured, and to make out the diagnosis of that erratic typhoid, I think that the nervous symptoms are of great help (see *Bull. de l'Académie de Med.*, Paris, 5 Sept., 1893, and *Gaz. Hebdom.*, Sept. 30, 1893).

If it is malaria, it is again a very modified form, as it resists quinine.

Probably, a secondary infection, due to gastro-enteric



ptomaines, alters the character of the malarial fever, like secondary infection due to the streptococcus alters la grippe and creates the typhoid form of la grippe (see *Bull. Soc. de Medecine*, Paris, 21 Juillet, 1893). A sure thing is that the influence of climate upon diseases is a strong factor (see Dutrolean and Laveran), and most probably in our climate both the universal typhoid and malarial poisons exhibit themselves under the peculiar forms of fevers now under discussion.

Dr. Chassaignac—I wish first, when it comes to a question of fact, to record my experience in rather a different way from that of Dr. Sexton. I have very frequently seen here in New Orleans typical cases of intermittent fever, of the quotidian, the tertian, or even the quateran type. I have seen them very clear cut, and in people who had not been out of the city at all; who had marked chill, and had it come back the next day, or the day after, at the same hour. Again, neither of these cases has any connection with the other form of the fever of which the doctor states it is his experience that it occurs where the hygienic surroundings are poor and the food bad. I have seen these cases in some of the best families in the city—people who live well, who are cleanly, and whose houses are good and well ventilated, and not troubled any by sewage.

Now when it comes to the discussion of this long continued fever, I think we want to decide first what we want to call typhoid fever. Many of us have seen cases that had been recognized as only simple continued fevers, so called, as far as the symptoms were concerned, including the range of the temperature, and having nothing at all typical of typhoid fever, when the patient died, as in some cases I have in mind at the Charity Hospital, and a post-mortem examination was made, reveal what we are taught to consider the characteristic lesion of typhoid fever, as far as Peyer's patches are concerned. So we have to decide whether this condition of Peyer's patches necessarily means that typhoid fever has been at work in the system. The two things that we have to determine, then, are (1) what we want to call typhoid fever; and (2) whether we can call typhoid fever only what is put down in the books.

This is why at our preceding discussion I used the term "classical typhoid" fever. Certainly, we have very little of that here, and it is certain also that these fevers we have under discussion are not that, whatever else you choose to call them. If they ever turn out to be due to the same poison as a regular case of typhoid fever, and that poison modified in some way or other, I can not say. They certainly are not the classical form of typhoid fever. We must determine, then, whether we are to consider as typhoid fever every case that shows the char-

acteristic affection of Peyer's patches, as revealed in post-mortem examination; or whether we can call typhoid fever only those cases which in life present what we are taught to consider the characteristic symptoms. If we are to be guided entirely by the nervous symptoms, as it is stated they do in some parts of the world, we would have to exclude the vast majority of these cases at once from consideration. That is one thing very striking, that no matter how high the temperature goes, no matter how delirious the patient may get, they do not experience the typical symptoms of typhoid fever. This is one of the differences experienced; and we also do not have coma vigilis, the murmurings and gurglings, nor the typical bloody stools that we have in typhoid fever; so if it were not for that one point, where the lesion of Peyer's patches has been detected at post mortem, I would state unhesitatingly that we could not consider such a case to be typhoid fever, because the run of the temperature is different, the character of the stools is different, and the symptoms, so far as the nervous system is concerned, are different; therefore, if it were not for that one point we could exclude it altogether.

When it comes to treatment of this fever, whatever you choose to call it—long continued, remittent, or anything you please—I believe it is treated very easily, and with very little medication if attention is given to the feeding of the patient. By feeding I do not mean crowding food upon him, but eliminating the indigestible from his diet and allowing him only the liquid or easily assimilated articles. Reduce the temperature by means of baths as well as antipyretics. Under such treatment I believe a large majority of such cases will get well.

Dr. Bruns—I have no experience whatever as a clinician on these subjects, but wish to say a few words as briefly and as rapidly as possible to emphasize the difficulties of the pathological side of the question from the standpoint of a microscopist.

In the first place, I think we may say we have typhoid fever here in a very much modified form, but whatever we have, whether we are able to detect the classical symptoms or not, we must not confuse ourselves and suppose that typhoid fever of the classical type does not arise elsewhere. It is very common in all the Northeastern Atlantic States, where the country is mountainous and hilly. A clinical diagnosis seems to me the simplest way of determining the character of such cases, but we have already heard the difficulties of reaching a correct conclusion. It has been stated that the examination of the blood for the germ of typhoid fever or the plasmodium of malaria is the better way—the exact way. I believe the results

are just as uncertain, and they are far more difficult to arrive at. In the first place the germ is very small. I have followed various methods with all the care that I could, and have found different and very conflicting appearances in the specimens of blood examined, and have never satisfied myself that I have seen the crescents of plasmodia, so that in the hands of one who has not special skill and some experience in these things it is not an easy matter to take a specimen of blood and say this is from a typhoid or malarial patient. It is extremely difficult to get a specimen from a patient who has not already been taking quinine, and all the authorities lay down the rule that it is no use to examine the blood if a patient has been taking quinine.

Now as to typhoid fever cases: when I was a mere student in Philadelphia, I assisted Dr. Meyers of Jefferson Medical College, in making examinations of Peyer's patches in diseases other than typhoid fever, and we found in cases other than typhoid fever the swelling and lesion of Peyer's patches, which seemed to be exactly identical with the characteristic lesion occurring in typhoid fever—as far as we could judge it was the same. I have even seen that in a case of measles in a young child. So the mere finding of Peyer's patches, swollen and showing the usual lesion, I do not think is at all an emphatic diagnostic point. There remains therefore only the cultivation of the typhoid bacillus and its recognition under the microscope—a long and very difficult process, so that from the standpoint of a practical microscopist the difficulty of arriving at a true and logical conclusion is as great as it is with the practical clinician.

To conclude, and simply to throw out a hint, it seems to me a very weak place in the plasmodium theory, or the plasmodium fact, as already held, that in countries like this, where malaria is very rife, we see certain forms of malaria which certainly do not yield to quinine, and where, in fact, those who have most experience seem to think the administration of quinine freely rather does the patient harm than good. I have had no experience of that myself, but it seemed to be the opinion of those practitioners whom I have heard talk on malarial hæmaturia. I must say that if the plasmodium is the organism that produces malaria, I can not see why quinine should not be administered as in other cases, and then ought to do good.

Dr. Matas—This is a very timely topic with us, and although I have not had the pleasure of hearing Dr. Martin's paper, I am glad he has brought the subject up, because it permits me to supplement a paper I contributed to the State Medical Society in 1885 on the subject of "The Long Continued Fevers of Louisiana that Resist Quinine."



Without having heard the doctor's paper, I believe the fever he describes is precisely the same that I brought before the society at that time. As you see, we have already started by calling it simply "long continued fevers that resist quinine." Dr. Martin has called it simply long continued fever, and I believe almost every one is undecided as to giving this fever a specific, distinctive name, which fact is explained in large measure by the uncertainty of our etiological views on the matter.

However, as I stated, I desire to supplement my paper of 1885, because I wish to correct the impressions conveyed, at least to correct the opinions I held at that time. In that paper I first called attention to the great clinical differences that exist between this fever and the usual typhus or typhoid types, and that they certainly were not the typical forms of malarial and typhoid fever as they are recognized throughout the world. In addition to this I called attention to the fact that these fevers were characterized by their absolute intractability to quinine. That is one of their chief and essential diagnostic and therapeutic features. Another point I brought out was that this fever was lacking in the essential characteristic, particularly of the typhoid state, meaning by that the absence of the typical thermometrical phenomena, the absence of abdominal symptoms as a rule, the absence of the so-called characteristic eruption and the absence of anæmic symptoms which characterize the typhoid state.

To continue with the points brought out in that paper: I had satisfied myself that it was the same fever described by Dr. Guiteras as occurring particularly in Tampa and Key West. He had become thoroughly familiar with the symptomatology of typhoid fever as found in Pennsylvania and other Northern States, and when he came to the tropics and was confronted with this fever he was very much nonplussed, being unable to recognize it as any type with which he was familiar—not at all the type he had considered typhoid in Philadelphia and other Northern cities. After long observations of the fever he came to the conclusion it was a simple thermal fever, as he termed it, that occurred in the tropics, and was no more than the result of exhaustion of the heat-regulating apparatus, brought on by the long protracted heat of those latitudes. He considered the essential feature of the disease simply heat disturbance; it was a simple fever, that was all. There was no other manifestation of the disturbance—a simple febrile action, with no bowel symptoms, and nothing at all that might call the attention to the condition of the patient except the one fact of the fever. Consequently, he called it a simple, continued, thermic fever, the result of heat disturbance.



Well, I thought this we have here was precisely the same fever, and as far as clinical symptoms are concerned, it is the same as that described by Guiteras.

Now comes the differences. Since 1885 my field of observation has been greatly enlarged, and I have seen a great deal more of this fever. It may be because the number of my patients has increased—at any rate I have seen a great many more cases, which has given me the impression that this fever is increasing in the community. I believe this is also the impression of a great many of my fellow-practitioners. I certainly am called to treat a great many more cases every year, especially in the summer months. I think also that this fever is assuming a more grave character and demands our most careful attention, and that we should come to some conclusion as to its nature and etiology.

My observations have made me change entirely the views I held in 1885, and it is proper that I state the reasons therefor.

In the first place, this fever occurs in the winter as well as summer. That is something I had not observed, except in two cases, when I prepared that paper. There is no heat then, and there should be no disturbance of the heat-regulating apparatus. I have seen such cases long after the heated season was over.

In the second place, this fever does present at times, I agree with Dr. Chassaingnac, the characteristics of typhoid fever—there seems to be two types, one typhoidal and the other non-typhoidal. I can cite at least a half dozen cases occurring in the last twelve months in which the typical typhoid phenomena have presented themselves side by side with the non-typhoidal form, one patient even lying in the same house with another—that is, one with the simple form and one with the typhoidal. One case presenting the usual diarrhœal condition, the other without diarrhœa. Both running a course of four or five weeks, but one patient taking his own medicine, reading books and newspapers, and doing everything a typhoid patient is expected not to do, while by his side would be a brother, or perhaps a sister, presenting many of the characteristic symptoms of typhoid fever, including the internal troubles, and finally dying of perforation of the bowels.

Thirdly, I have noticed that there have been groups of cases, showing that there is an infection. I have seen three and four cases in a house in certain districts. I have in mind now three such cases where there were a series of cases. No later than last week I got through with a family in which there were four cases, beginning with a little child, who had fever five weeks, being followed by a little sister, then by a little brother,

all presenting the typical manifestation of this disease. I very soon came to the conclusion that there was one cause there for all this fever, and have now fully decided in my own mind that this fever is truly typhoid fever—that it is a type of typhoid fever—surely there is no doubt about that. I admit that in the majority of cases it does not present the classical features of typhoid fever, but it does in a sufficient number to prove my position I think. Some of the cases are typhoid just as classical as we read of in the old authors.

Now, if this is typhoid, our sanitarians must investigate the question of means of prevention. Guiteras declared that he did not believe there was typhoid fever in Tampa, and we all know the opinion of Dr. Faget, one of the ablest of the older physicians in the city, who held that he had never seen it and did not believe it existed here, that all typhoid cases were imported cases, etc. Guiteras believed it was impossible in Tampa and Key West because the people drank only pure rain water—cistern water, the same as we do here. But our views of typhoid fever have entirely changed. The days of Murchison and I think are over, and we are not to believe any more that the existence of typhoid germs depends entirely upon sewerage or drainage. If we admit the bacillary origin of typhoid fever, we must admit other ways of propagation. I think typhoid is spread by many other ways than by water. It is a subject worthy of investigation from a purely sanitary standpoint, and is becoming more and more a serious problem in the mortality record of the city.

The matter of the identification of this fever with typhoid fever, and the difficulties of recognizing its etiology from a pathological standpoint, have been brought up, and the difficulty of identifying the disease by means of the microscope has been well established by Dr. Bruns. I think it is a subject that deserves thorough sifting from a clinical standpoint alone. Although we have nothing to substantiate the character of this fever from a clinical standpoint, I believe it is typhoid fever. But we want a bacteriological diagnosis of this fever, and I think we should formally commission some of our members to take the matter in hand and give us an exhaustive report. It is a sad commentary upon New Orleans, the largest metropolis in the South, situate in the very heart of the malarial country, in the midst of this almost epidemic fever, that we are not able to give some kind of bacteriological information on the subject. We see the work that has been done by the Italians in this direction in the last decade, done in France and Algeria, and even in Texas, and yet we have nothing to say on the matter—we who really ought to be the beacon lights in such investiga-

tions. I really hope the matter will be taken up seriously, and that we will entirely efface the bad impressions created by our apparent apathy to a subject of such importance, by a good report in the near future. And I hope particularly that that report may emanate from this society.

But to return to the subject. I think we have sufficient facts to establish this fever, from a merely clinical standpoint, and that the malaria we call "the long continued fever that resists quinine" is not malaria at all. At this point I would mention that Dr. J. J. Kinyoun, of the Marine Hospital Service, made some excellent investigation a couple of years ago upon the microscopy of these diseases, and gave particular attention to the intestinal discharges. According to his statement he found, beside the bacillus of typhoid fever, the plasmodium of malaria, both micro-organisms being found together, so he said he had been able to confirm the position taken years ago, that two poisons could exist and thrive in the human organism at the same time. While I have great respect for the ability of Dr. Kinyoun, I am not sure that he may not have been mistaken—especially when you consider the acknowledged great difficulties of the identification of the bacillus, I am inclined yet to doubt, I will not say the correctness of his observations, but at least his conclusions.

I think the treatment is the simplest part of the problem. In that I coincide with the previous speakers, excepting that there are cases which will tax all our resources, therapeutic as well as medicinal. One very important thing we have to a great extent neglected in the application of the treatment of Brown in our typhoid cases is cold bathing. I know it is not a treatment at all in favor in the community, and that with certain people, if you mention bathing, it means a change of physicians. Water is something that is held in perfect horror in the treatment of fevers. This I think is the result of the old treatment of the French nurses in yellow fever cases. The sweating process became so much in vogue that it is hard to dislodge it. It is our province to introduce this method, which, properly applied, is so beneficial. It is one of our most valued resources, but unfortunately too often neglected. The treatment by antipyretics has been a very favorite treatment. These remedies were rather new in 1885, when I referred to them in my paper. I got them as soon as they came out, and remember specially importing antipyrin for a special case. The rapidity with which these anti-thermic coal tar products will reduce temperature is something wonderful, and they have become thoroughly essential. But cold bathing is the only agent that will control pyrexia with safety, and I believe that



the rules of Brown should be carefully followed in its application. We must know how to apply it, and must have intelligent nurses as aids. Intelligent nursing is really of the utmost importance in the treatment of these long fevers. I have seen a bath keep down temperature for three or four hours. A very interesting illustration occurred not very far from here, where a bath always kept the fever down for four or five hours at a time. It was applied with great care and precision, a thermometer being used always with the water as well as the patient. Our inability to always control our nurses is one of the great troubles in the application of this method; but we should not forget its utility and the necessity for forcing it upon the community in spite of old traditions to the contrary.

I have little else I might say, except that we all have a great deal to do with these long continued fevers, and that we all doubtless know better how to deal with them than how to settle their etiology.

Dr. Bloch—This paper has been so fully discussed by the gentlemen who have just spoken, I feel almost anything I can say would be superfluous. I have been very much interested, having had a number of such cases under my personal observation—some outside, but mostly in the Charity Hospital. My efforts to cure them with drugs have been peculiarly fruitless.

Dr. Forcheimer, of Cincinnati, in his very excellent article in Keating's *Encyclopedia of Diseases of Children*, related how the excavation of a certain street to lay a sewer pipe caused an epidemic of that fever all along the street. They called it typho-malaria. It was not malarial fever, for quinine had no effect upon it whatever; it did not yield. It was not typhoid, because there was no source of infection. However, if what Dr. Matas has said is correct, and I believe it is, it was typhoid fever of a modified type, as our experience shows that typhoid fever can enter the system through some other medium than the water; this must have been something of that sort. Among the many cases I have had of this so-called hybrid fever, I do not believe there has been one of real typhoid fever—not one with sordes on the teeth, with delirium, diarrhœa; not one which quinine has controlled; the only benefit derived was from small doses of quinine and antifebrine, given every two or three hours, which kept down the fever to some extent.

At the last meeting of our society I spoke of three cases in which typhoid lesions were found, the patient presenting no symptoms of typhoid fever. To-night I present the chart of a man who came to the hospital after being sick ten days, presenting at the time the typical symptoms of typhoid fever. The man died. My student held the post mortem for me, reporting no lesion of the intestines.



I have received great benefit from the cold bath, which I have always found acceptable to the patient if properly given; not only has the temperature been reduced, but it has always produced a quieting effect, promoting rest and sleep. I attach great importance to the diet, and will not allow anything of a solid nature to go into the alimentary canal.

Dr. Parham—It would be difficult for me now to say anything that has not already been said. I was very much impressed with the importance of some of the cases, or groups of cases, which Dr. Matas reported. It seems to me that if we could collect data regarding a sufficient number of such groups it would settle the question for us—as to the nature of this fever. Certainly such a thing as typhoid fever exists. Anybody who has been East and seen twelve to fifteen people in one ward of one hospital sick, with the same symptoms, must be convinced there is such a thing as typhoid fever. I must say that I have not seen here what I consider a typical case of typhoid except, possibly, in the Charity Hospital. In my private practice I have not met a typical case of typhoid, though I am firmly convinced that most of these cases denominated continued malarial fever were really typhoid fever of a modified form.

It seems to me that if this society could have data taken of all cases of these long continued fevers that resist quinine for say a year, and at the end of that time have a committee take charge of those reports and draw some conclusions, I believe the results would be of great value. The case of which Dr. Matas speaks, where there was a case of typical typhoid fever, and others alongside of what he terms simple fever—or what Dr. Guiteras called simple thermic fever—where the fever was the only symptom, that is a very remarkable observation, and one which I have never been able to make myself. It seems to me that if Dr. Matas would collect these facts and report them to this society, and then all of us follow suit, reporting all our cases of continued fever, say for a year, that the results would at least be very interesting; and then get all possible data from the records of the Charity Hospital regarding autopsies on such cases. I believe we would in this way get some very valuable data. I think a committee should be appointed to undertake this work, and that every member of this society, especially those who attend the most regularly, should oblige himself to report every case of continued fever which resists the action of quinine.

Dr. Scheppegrell—As Dr. Matas is convinced that this fever is identical with typhoid fever, it may not be uninteresting for me to mention some facts regarding a small epidemic with which I was connected some years ago, when I was prac-

tising in Charleston, South Carolina. I was physician for a phosphate company, which operated about five miles from Charleston, and had a settlement of its own, employing between 300 and 500 workmen. I was called one day to see a case of fever, which in a few days developed all the seeming symptoms of typhoid fever—nose bleeding, diarrhœa, tympanites, etc. About a week later I had two more cases, and then concluded that as all these workmen procured their water from one well (there was an artesian well on one side of the works and a common well about the middle of the settlement, from which most of the workmen drew their water), I concluded that this well was the source of infection, as it received surface water. I had it closed, the pump removed; but about a week later I had five more cases, and a careful investigation showed that, although the pump had been removed, some of the families of the workmen had been taking water from the well, intended for washing purposes only, but the men would come in hot and would drink from the bucket containing this well water. I reported the matter to the president of the company, who had the well filled up and another well dug on the upper part of the hill, and we had no more cases of fever. There were eleven cases in all. Three cases died of intestinal hæmorrhage, and the autopsy showed lesion of Peyer's patches as well as hæmorrhage.

Dr. Theard—I would have preferred very much to remain silent. The younger members of the profession in these gatherings can spend their time much more profitably by being all ears than by being all tongue—by listening to the words of members of maturer years and wider experience; but since all must contribute their mite, I will have to do as the others do. While the case of which I speak is not directly in line with the discussion, it is one that nonplussed me at the time, and one I think is remarkable so far as the heat record is concerned. I diagnosed it and sent in a death certificate to the Board of Health with a high-sounding name attached, but even now I am not entirely satisfied that I knew what was the matter. It might have been something else, but if so I could not detect it.

I was called at night to see a young Italian, aged 24 years, who had been married only thirty-six hours. He had fever at 1 o'clock and went to Dr. Fourquette at 2 o'clock, who prescribed a remedy for fever. At midnight the patient had high fever and again sent for Dr. Fourquette, but he was not in the office and I was called. I placed the thermometer in the axillary, and on looking at it thought surely the column had dropped—it registered 111 deg. I knocked it down and again it went up to 111. Again I knocked it down, and again it went

up to 111. Again I knocked the column down, washed it, and tried it in my own mouth, where it showed normal. Placed again in the axillary, it registered 111. This was conclusive. As there was vomiting and the pupils seemed larger than normal, I suspected foul play, as the man was an Italian and married only thirty-six hours, but I could not detect any indications of poison. I gave injections of quinine and antypyrin, which brought the fever down to 103 deg. In the course of four hours the patient was dead. As I said, I sent in a certificate with a high-sounding term attached, but even now I am perfectly nonplussed. I can think of no condition that might have occasioned such a fever. The thermometer was proven correct, for I tried it the next day with another. I tried it with two physician's thermometers. The heat was such that the rise was sensible to the touch. I should like much to know if any others have experienced cases showing such abnormal febrile symptoms, and to what they attributed them.

Dr. Bruns—I would ask Dr. Matas if he has ever seen a malarial temperature of 111 deg. I believe temperatures of that range can be only of nervous origin.

Dr. Theard—I say that was the diagnosis sent in. I had to give some diagnosis, but I have been nonplussed and worried over the case ever since. Whatever the cause of the fever I believe the patient would have died. I should like to hear what other disease might have brought on such a condition. I suppose such a high fever might have been experienced in erysipelas—I have heard of it in no other disease.

Dr. Matas—The highest temperatures here have always been associated with some heat stroke—especially if the subject has been in the habit of taking intoxicants.

Dr. Chassaignac—I remember distinctly a case where a man recovered after remaining comatose for forty-eight hours, and where the temperature registered was  $110\frac{3}{4}$  deg. It was a year when we had more cases than in any year I remember. It was during my student days. We had a large number of cases, many of them with exceedingly high temperatures. I think this was the highest I saw registered.

Dr. Parham—I remember cases in the Charity Hospital, during the yellow fever epidemic of 1878, where the temperature went up to 108, 110 and 113. A remarkable thing was that the temperature continued to go up after death.

Dr. Martin—Possibly you will recall a similar case, where a party broke his neck at West End. We brought him in, and about six hours afterward the temperature in the axillary was 108 deg. The autopsy proved the diagnosis.

Dr. Theard—In my case there were none of these symp-



toms present, especially as the case was at night, and my recollection is that the night was cool.

Dr. Kohnke—I can remember clinical cases which I was rather inclined to consider typhoid fever, but feared to entertain the opinion against what I thought to be the prevalent judgment upon the question. After a thorough investigation, I believe we will call many cases typhoid boldly that we would have feared to call typhoid before. They have not changed any, but as in cases of grip at the beginning of the grip season, we hesitate to call it grip, but when we see our contemporaries gradually coming down to grip we fall in, and then call grip what we perhaps thought was grip before, but feared to be too soon.

Dr. Martin then referred to the groups of cases spoken of by Dr. Matas, some presenting the typhoidal type of fever and some only the so-called simple, thermic fever, and in some cases both forms occurring side by side, and mentioned a case that had come under his own observation, where a man had been sick with the simple form, and had for a part of the time conducted his business as usual, while in the same bed lay his wife who had an unmistakable case of typhoid fever, all the symptoms being present except the eruption.

Speaking of the giving of baths, the doctor said he did not think any objection would be made to bathing if administered in the way it is given at the Sanitarium. It is really a wet pack. The patient is put on a bed that can be handled easily, and the head is lifted two or three inches. Put the patient on a rubber sheet, and have the water poured on the top at any temperature required. It is generally sprinkled on. The patient does not necessarily have to be taken out of bed. This will bring down the temperature to a marked degree.

Dr. Scheppegegrell asked that a paper which he had prepared for this meeting be read by title, "The Operation of Stapedectomy for Non-Suppurating Otitis.

Dr. Parham called the attention of the society to the coming meeting of the Southern Surgical and Gynecological Society, which will be held in New Orleans on November 14, 15, 16, and that some steps should be taken to entertain the society.

Meeting adjourned at 10:30 P. M.



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## Editorial Articles.

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### THE STATE MEDICAL SOCIETY.

Although our State Society will not meet until next May, we deem it advisable to call the attention of our readers to the necessity of early preparation for it. We have received a circular from the corresponding secretary (a copy of which is published elsewhere in this number), in which a call is made on the members to make an effort to contribute papers or reports at the next meeting. We most cordially endorse the sentiments therein expressed, and sincerely hope that every member will be made to take an active, personal interest in making the coming meeting a scientific success. Hampered as our brethren are by professional cares, we can readily understand why they do not engage in long and exhaustive investigations of single subjects. Such things are only expected of men who have abundant hospital advantage in big cities. There are many cases in country practice that are far more interesting than many reported cases of hospital practice.

These cases are too often allowed to pass into oblivion because of lack of time to report them and diffidence on the part of the physician. In the country, too, a man has not at

his command large drug stores and instrument stores, and a man's ingenuity is frequently taxed to make his meagre armamentarium meet sudden and unforeseen emergencies. If there be anything in a man, country practice will bring it out. Marion Sims once found himself confronted with a case that required a vaginal exploration with a speculum. Not having one with him, he improvised one out of a spoon, and now the Sims speculum is an indispensable part of every gynecologist's outfit. If a certain country physician in Kentucky had not proved himself equal to the occasion, ovariectomy and abdominal surgery generally would have been postponed many years. We venture to say that not one of our brethren practising in thinly settled localities has failed to meet with cases that are of unusual interest. Our intercourse with them has led us to the belief that diffidence holds them back; and it is only after a good deal of discussion that they can bring themselves to believe that the cases which to them seem devoid of interest would prove highly instructive to those who labor in other localities.

If all of our friends who will attend our next meeting could so arrange as to present brief notes of their important cases, we feel confident that our transactions would be a record unsurpassed, in practical value, by that of any similar organization. Since our disastrous civil conflict Louisiana physicians have not manifested the old-time zeal for scientific research. The causes of this we all know too well. In recent years, however, the load of sorrow has lightened and our brethren have been giving evidence of a returning life. It rests with us all, collectively and individually, to perpetuate and strengthen the onward impulse. As each drop of water in the Mississippi adds its force, however feeble, to the mighty torrent, so should each one of us contribute his mite to the grand store of medical knowledge.

## Abstracts, Extracts and Annotations.

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### MEDICINE.

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#### FUNCTIONAL DISEASES OF THE ALIMENTARY CANAL ACCOMPANYING CLIMATIC OR TEMPERATURE CHANGES—ETIOLOGY, PATHOLOGY AND CLINICAL HISTORY.

By FRANK WHITFIELD SHAW, M. D., Assistant Visiting Physician Methodist-Episcopal Hospital, Brooklyn; Attending Physician to Diseases of Children, Brooklyn City Dispensary.

During the past ten years systematic investigations of bacteria have been in progress for the purpose of determining an accurate classification, and the correct etiological factors concerned in the intestinal disorders of summer.

Although a large number of independent investigators have been employed in this particular branch of bacteriological work and the results of their labors show decided progress, not enough has yet been accomplished to warrant the statement that all of these disorders have their origin in any particular class of micro-organisms. Enough, however, has been done, and the conclusions so far produced show sufficient points of agreement to warrant the statement that the work is being conducted in the right direction, and that it is only a question of time when the real cause of all intestinal complaints will be properly classified according to their bacterial origin. The influence of temperature and climate has not been neglected in these investigations, but has simply been looked upon from another standpoint. That is, heat and climate, instead of being now considered the real cause, are regarded only as the means by which micro-organisms can flourish and act as the real etiological element. Were it not for the high temperature of summer, the usual intestinal summer disorders would not exist. Again, high temperature alone is not sufficient to cause the disorders now under consideration. Heat must be maintained at a certain mean temperature for a number of days and nights before any serious trouble can arise. Furthermore, this heat must be able to exert its influence upon micro-organisms contained either in the air, intestinal canal or food before it can become an etiological factor. Our knowledge of specific intestinal micro-organisms is as yet so incomplete that a classification of summer intestinal disorders can only be made from a study of the pathological conditions created, and from the location in the intestinal tract of the different varieties. These pathological conditions range from the

simple congestion of the mucous surfaces from mechanical irritation to the more or less complete destruction of the epithelial, mucous and sub-mucous tissues. Classified according to location, there are four distinct varieties, gastro-enteritis, enteritis, entero-colitis and colitis. With the exception of the first variety, and that in its simpler form and in children, these conditions are all inflammatory in character. Gastro-enteritis or cholera morbus in adults in its etiological factors is quite similar to the same condition in children, and is the result of some interference with digestion.

It is the only form of summer intestinal disorders which can not now with reasonable certainty be said to be caused by the activity of some intestinal micro-organism. When promptly relieved no pathological changes take place, and it is only when allowed to continue for several days that any loss of epithelium and mucous tissue occurs as a result of changing the simple conditions of congestion into an inflammatory one. As in children, gastro-enteritis in adults is largely influenced by humidity and temperature changes, but to a much greater extent in adults than in children, for in the former food remains much longer in the stomach, but in the latter in whom, if the conditions become serious, the trouble is much more likely to have passed into the second division and become purely an enteritis. Simple nausea, vomiting, restlessness and signs of abdominal pain are about all the signs that can be said to constitute gastro-enteritis in children, while in adults the same disorder is accompanied by many of the signs of collapse, pallor, rapid pulse, blueness of the skin, suppression of urine, and thin, watery discharges. When the latter symptoms present themselves in children a true enteritis is in progress.

That this is true is proven by the now well established position of the child's stomach in the abdomen and the very short period of time that food remains in that organ.

A child's stomach is now known to rest more or less in a perpendicular position, the pylorus being below and the cardiac opening above, with the upper third of the lesser curvature being parallel with the left border of the spinal column. It is poorly supplied with muscle fibres, contains few peptic glands, the lower portion of the greater curvature being a kind of pouch, and the whole acting almost entirely as a receptacle for food, which is within three-quarters of an hour to an hour and a half passed into the intestines, where it is to be digested. Within one hour after eating a child's stomach is almost entirely empty. In children simply the vomiting of casein does not constitute a gastro-enteritis, but is the result of over-feeding, uncleanness and gastric fermentation. As the



intestine in children is the principal seat of digestion, so is it the principal seat of distress in all serious disorders of summer. The point of greatest importance that can be attached to the stomach of children during the first few months of life is its capacity. While over-feeding is universally recognized as a very important etiological factor, sufficient attention is not usually paid to what really constitutes over-feeding, particularly in bottle-fed babies.

Over-feeding does not refer so much to the quality or consistence of the food given as it does to the quantity, some writers stating that other things being equal even cow's milk only slightly diluted will be tolerated if given in proper quantities, and at regular, well-defined intervals. The gastric and intestinal secretions after a certain point is passed are no longer able to properly care for the casein, which is the principal cause of trouble. The following table, taken from Holt, gives the capacity of the child's stomach from one month old to that of the ninth month.

At birth 1.20 oz., one month 2 oz., two months 3.37 oz., three months 4.5 oz., twelve months 9 oz. At twelve months capacity being about twice that at three months. During first three months increasing 1 oz. a month. Increase during three to eight months 1-2 oz. per month. From eight to fourteen months increase is 1-3 oz. per month.

Another evil following as a natural consequence a disregard of the knowledge of capacity is that of stomach dilatation, which at first is only functional but may become chronic. The stomach walls to begin with being deficient in muscle fibres soon refuse to respond to the effects of increased food, and consequent gastric fermentation and the result is the permanent enlargement so frequently seen in young children. The few peptic glands have less opportunity for allowing their secretions to act upon the food, and as a consequence what would otherwise be a normal quantity becomes relatively abnormal.

Other etiological factors acting both in children and in adults are fatigue, sudden chilling of body, a mean high temperature for several days of 60 deg. F., with humidity and micro-organisms found in the earth, air, water and food.

Fatigue and humidity, by diminishing all the powers of resistance, place the body in a condition to be influenced by chilling, high temperature and bacteria. High temperature and bacteria are mutually dependent upon each other.

Those conditions in adults in which they perform a most important part are entero-colitis and colitis. By entero-colitis is meant that condition of the intestinal canal in which, from

the presence of micro-organisms and the production of poisonous ptomaines, there exist not only distressing local symptoms but also grave constitutional ones, approaching frequently those of collapse. This condition frequently begins as an enteritis, but rapidly extends until a portion of the ascending colon is involved. Pathologically there is found intense congestion of the mucous surfaces, destruction of the epithelium, mucous and sub-mucous tissues, infiltration of cells even to the muscular layers, enlargement of solitary and mesenteric glands, and the mucous surfaces bathed in a copious muco-purulent discharge. Ulceration may occur with loss of blood. Colitis or acute dysentery and inflammation of the large intestine is now believed to be caused by a specific bacillus.

Pathologically the mucous surface presents no distinct points of difference from enteritis, except that the stomach may be ulcerated. The mucous membrane of the large intestine is swollen, ecchymosed, ulcerated, and the closed follicles are hypertrophied as well as the mesenteric glands. Chantemesse and Widne have discovered a micro-organism which they describe as a bacillus with rounded ends and slightly swollen. It develops rapidly in all culture media, and under cultivation its transverse diameter increases. It has very little movement.

They are found between the tubular glands, in the sub-mucous tissue and in the liver. From their entire absence in health and their presence in the stools and viscera of dysenteric patients they conclude that they are the specific cause of this disease. There is one form of enteritis due to a specific organism in which the nervous system is thought to act the most important pathological part. It is membranous enteritis, and described by Cornie the result of an organism introduced with the food, the different symptoms presenting not being due to different pathological changes but to a difference in the nature of the organism. By symptoms he refers particularly to the nature and structure of the membrane itself, it ranging from a delicate, friable, unorganized substance, composed mostly of mucus, to a thoroughly organized leathery mass, these symptoms being influenced through the nervous system by the intensity and amount of the poison introduced. Another disorder having its seat in the intestines, and prevalent at least periodically in our own climate, is Asiatic cholera. Etiologically it is dependent upon the action of the comma bacillus under certain favorable conditions of heat and moisture.

It is frequently pathologically impossible to distinguish it from cholera morbus, and at the beginning of an attack the same is equally true clinically. Both may have clear, colorless,

rice-water discharges, but usually in cholera morbus there is some odor to them. In Asiatic cholera diarrhœa is an early symptom, and the dyspnœa, cyanosis and shrunken condition of the skin more marked while the discharges show no sign of becoming more solid, which is usually the case in cholera morbus. In cholera morbus the attack is usually sudden, frequently occurring in the night with marked and violent symptoms and the vomited matter for some time showing traces of bile coloring matter. Recovery is usually rapid, lasting from a few hours to two or three days. In Asiatic cholera the constitutional symptoms are usually more marked and recovery, if at all, is not so rapid.

Broca has described a condition of the skin which he has found present in several cases of true Asiatic cholera, and which he thinks may assist in diagnosis. He speaks of it as an "erythema peculiar to cholera and due to infection, consisting of a fairly red papule with diffused borders, two to three mm. in diameter and slightly elevated. On thick epidermis these papules do not occur, but red spots are seen. After twenty-four hours regular corymbs form resembling morbilli or beginning scarlatina. Miliary vesicles may surround the spots, and desquamation follows."

In infants, the study of bacteria with reference to their etiological importance has been pursued to that point at which some writers now declare them to be the principal cause of summer disorders.

Other writers, while not at present being willing to assign to them the first place in etiological importance, admit that they constitute a very important part. Upon two points all are agreed: first, that there are a certain number of physiological bacteria in the intestines, and second, that there are others which are pathological. Beginning with the new-born infant who is entirely free from all bacteria they begin the study with the first infection, which usually occurs before any food has been taken. Baginsky and Escherich have both devoted much attention to a bacillus which the former claims produces a normal acetic acid change in food products, and the latter a lactic acid change. It has no effect upon starch or casein, and very little upon albumen. In an over-production of this acid fermentation the bacillus itself is destroyed.

This occurs when the food is given in too large quantities, and the practical point in connection with this bacillus is that under this condition it loses its power to stand on guard to prevent the entrance into the intestine of poisonous and pathological germs. This protection is not, however, very great, be-



cause it has been shown that nearly if not all forms of bacteria during digestion can pass unchanged through the stomach into the intestines. The acid of the gastric juice is the only one of the digestive secretions that has any destructive action upon bacteria, and this it can not exercise during digestion for the reason that the hydrochloric acid, which has a very strong attraction for milk, particularly cow's milk, is absorbed by it. It is never found free in the stomach during digestion. The first, therefore, of the etiological factors in summer disorders, aside from the bacteria, is over-feeding. This may occur at any season of the year, and its continuance results in establishing a dyspeptic intestinal catarrh which renders the canal a very fertile location for poisonous germs during the heated summer months. The so-called gastric irritation of dentition produces a like condition and acts as one of the causes in rendering the intestines more susceptible during summer. Bacilli which become located in a particularly inflamed canal, the result of a long continued dyspeptic intestinal catarrh, flourish much more easily than in one not so affected. Second in importance are the bacteria and germs found principally in the mouth, and to some extent in the œsophagus. These alone are sufficient, when washed into the stomach along with the food, to infect the most carefully sterilized milk, and in it develop rapidly in the intestines. Third in importance are the bacteria contained in the milk itself. The extent to which these germs can act depends partly upon the number finding entrance, and partly upon the powers of resistance of the individual. A mean temperature for several days of 60 deg. F. causes a very active multiplying among the germs contained in milk and water. Next in importance are the bacteria of the air, the result of putrefactive changes and multiplying of poisonous germs deposited in the earth. Some of these have a direct action upon the health when absorbed through the respiratory organs. High temperature and humidity, principally by their effect upon bacteria and through their influence upon the nervous system, constitute the one great etiological factor. Experiments made in crowded tenement districts show that the air and temperature of the first and second floors is more poisonous than that of the cellar or floors above. The temperature of the earth four feet below the surface when it reaches 60 deg. F. is said by some observers to be the great cause of rapid bacterial development, and consequent intestinal infection.

The principal pathological changes occurring in the intestines have been mentioned with the exception of the diarrhœa. To this subject a great amount of attention has been given. The reaction of the entire intestinal canal of a healthy breast-



fed infant is acid, but in disease this condition does not always continue, some portions of the intestinal canal being acid and others alkaline, and upon this oftentimes depends the character of the diarrhœal discharges. It is now believed that the bacteria act in three ways: first, by causing undue fermentation; second, by acting as a direct irritant upon the intestinal mucous surfaces, and third, by generating poisonous ptomaines which are readily absorbed. It is also known that certain bacteria have a specific action upon sugars, starches, etc., producing an acid fermentation, while others act specifically upon albuminoids, resulting in an alkaline fermentation. Any condition which renders the intestinal canal alkaline is pathological.

There is one variety of diarrhœa which is now thoroughly understood, and which at the same time is one of the more serious forms of it. This is the green diarrhœa, the reaction of which may be acid or neutral. It can be divided into two distinct varieties according to the cause producing it.

The first of these is that form which is dependent upon a change in the bile pigments. Bilirubin can in an alkaline medium be changed into biliverdin, and thus color the intestinal contents, the acid reaction of these stools bearing no relation to the green color, for a stool once green remains so, and is not changed by any of the organic intestinal acids.

Anything which tends to render the intestinal contents alkaline, even the long continued use of bicarbonate of soda, will by this means change the ordinarily yellow color to green.

The second variety of green diarrhœa is the one described by Lesage, and to the production of which he assigns the action of a specific bacillus. This bacillus is of the liquefying variety, rapidly diffused in water and producing in it a green coloring matter. He describes it as small and of variable length and thickness, and as it grows, shows a disposition to form long threads. It secretes a green coloring matter of various shades, the color depending partly upon the age of the germ, but principally upon the amount of free oxygen—the more oxygen the deeper the color. He found that lactic acid had specific action upon it, the bacillus being rapidly destroyed in its presence.

This specific action of the lactic acid and the distinct etiological difference in the two varieties of the diarrhœa is shown clinically where the acid is employed. The acid has no effect whatever upon the color when due to bile pigments, but in the absence of these, and acting almost as a means of differential diagnosis, it changes rapidly the color when due to this particular germ.

In conclusion, the following deductions may be made concerning the three divisions of this paper:

First as to etiology:

1. Any cause at any time of year which creates in the intestines a condition of catarrh.
2. Fatigue or sudden chilling of the body.
3. High temperature and humidity.
4. Micro-organisms contained in air, water or food.
5. Any intestinal irritation or absorption of poisonous ptomaines.
6. Infection externally from decomposition of stools.
7. Active specific bacilli.
8. Age and individual powers of resistance.

Pathology:

1. Simple congestion of intestinal mucous surfaces.
2. Inflammation of stomach and intestinal mucous surfaces with loss of epithelium, and in severe cases loss of mucous and sub-mucous tissue with intestinal infiltration.
3. Ulceration with loss of substance.
4. Infiltration of solitary and mesenteric glands.
5. Formation of membranous coatings to intestine.
6. Grave constitutional symptoms with no marked pathological intestinal changes.

Clinical history:

1. Simple gastric or intestinal dyspepsia with nausea and vomiting with no constitutional symptoms.
2. Enteritis, gastro-enteritis, entero colitis and colitis with marked local and grave constitutional symptoms, approaching in the latter case those of collapse.
3. Sudden death within a few hours of attack, with no intestinal signs of pathological changes.
4. Diarrhœas in all degrees of intensity, frequency, color, consistency and composition.
4. Vomiting, consisting either of mucous, undigested food or other stomach or intestinal materials, bile, blood or serum mixed with intestinal contents.
5. Specific action of certain pathological germs upon starches and sugars, resulting in an acid fermentation, and lastly, a similar action of other germs upon albuminoids, resulting in an alkaline fermentation.—*Brooklyn Med. Journal.*

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#### RELATIONS OF DYSPEPSIA TO PULMONARY TUBERCULOSIS.

At the recent French congress for the study of tuberculosis recently held in Paris, one of the subjects discussed was that of the relationship of dyspepsia to pulmonary tuberculosis.

Marfan has maintained in his thesis that the digestive disturbances of the phthisical bear the relation not of cause, but

of effect; in other words, they are but one of the manifestations of tuberculosis. Often the dyspepsia makes the tuberculosis. Marfan believes the initial dyspepsia to be caused by a "humoral state."

According to Hayem, whose paper attracted much notice, the gastritis of the phthisical is a common gastritis due to the ordinary causes of stomach inflammations. It is generally accompanied with retardation in the evacuation of the stomach and consequently with dilatation. It sometimes precedes for several years the appearance of the tuberculosis, and is only exaggerated at the onset of the phthisis in patients who take excitant drugs or who adopt a regimen not adapted to the state of their stomachs.

The causes of the gastric affections of the phthisical are those of ordinary gastric affections, to-wit: the abuse of tobacco and alcohol, errors in diet, etc. It is a mixed gastritis, parenchymatous and interstitial.

In one case, Hayem found, at the autopsy, a general amyloid condition of the entire mucosa; of another, a necrosis due to a thrombosis; exceptionally, he has met with a tuberculous ulcer.

A gastropathy of uncertain source begins early in life; it entails a state of general debility, and at a certain moment pulmonary tuberculosis bursts forth. The physician then institutes an active treatment, based on super-alimentation and the abuse of medicaments.

Under the influence of this particular regimen continued for months, there supervene the symptoms of violent gastric catarrh, in other words the "initial gastric syndrome" of Marfan. It is simply the exaggeration of a gastropathy which had existed for many years, sometimes fifteen or twenty years before the appearance of the pulmonary accidents. Under a suitable dietary regimen and the suppression of medicines the gastric symptoms vanish.

When the attending physician discards the administration of irritant medicines and prescribes nourishing, easily-digested foods, he will even in febrile cases see the condition of the stomach improve.

Tuberculosis at the onset, then, does not make the state of the digestive organs evidently worse. On the contrary there are few diseases which so rarely affect the stomach. One is often astonished at the digestive capacity of the phthisical, who will eat more nutritious food than a well man.

In concluding, Hayem said that with the exception of rare lesions, ulcerations, amyloid degenerations, etc., the gastritis of the phthisical is of the common kind.

It is sometimes latent, and is not diagnosticated before the appearance of the tuberculosis. It should, nevertheless be a subject of preoccupation by the medical attendant, for this gastritis may end in grave gastropathies and open the door to pulmonary tuberculosis. In hospital patients it would seem that chronic alcoholism is a frequent cause of gastritis.

One of the best means of warding off pulmonary tuberculosis in the predisposed consists in treating the gastropathy.

The proper medication addressed to the digestive tube may perhaps in some subject arrest tuberculosis at the onset.—*Boston Med. and Surg. Journal.*—*Times and Register.*

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DR. J. C. HEMMETER ON THE SIGNIFICANCE OF PHAGOCYTOSIS  
—CONCLUSIONS.

1. In Hess' experiments on injection of anthrax bacilli in the lymph sac of the frog, a large quantity of bacilli and spores must necessarily be carried directly into the blood-streams, and could not possibly be taken up by leucocytes, which are shown not to be present in sufficient numbers to destroy the bacilli and spores.

2. Sanarelli has proven a germicidal action on anthrax bacilli and spores to belong to the cell-free lymph of the dorsal lymph-sac inside and outside the sac.

3. Leucocytes do not accumulate or migrate to inflamed areas because they are attracted by bacteria, since sterile inflammations and inflammations produced aseptically by substances having a negative chemotaxis abound in leucocytes.

4. Certain bacteria even exert a negative chemotaxis—*i. e.*, repelling leucocytes.

5. Mitigated cultures produce a greater immigration of leucocytes than do virulent cultures.

6. Leucocytes seem to migrate to and accumulate in areas of inflammation for three main reasons:

(a) A physical reason, as pointed out by Weigert, Schlawewsky, and Cohnheim, which is to this effect—the rate of the circulation being much slowed, and arterial pressure raised, the leucocytes, by their physical properties, stick to the sides of the vessel, the walls of which, being pathologically altered, they gain exit by their own amoeboid movements, or, according to Cohnheim, by a physical process of filtration.

(b) The second reason, a chemo-pathological one, is derived from the experiments of Buchner, showing that necrobiosis always attracts leucocytes; the products of tissue necrosis, whether bacteriological or not, attract them. Buchner has isolated from the bacteria and from the necrotic tissues chemical products that exert powerful positive chemotaxis.



(c) The third reason, a morphological and embryological one, is founded on the histo-genetic relation of the leucocytes to the undifferentiated cells of the mesoblast, which alone have made up the entire embryo. The leucocytes are floating embryonic cells with a latent capacity for further development; the positive chemotaxis that destroyed tissue has for them may be partly explained by their function to aid in tissue reconstruction.

7. In the light of recent observations it is correct to assume that just as certain chemical substances present in the bacteria attract or repel leucocytes, so also certain chemical substances present in the cells attract or repel bacteria. This view is supported by many examples of certain cells and tissues being loaded with the specific bacteria in various diseases.

8. This being the case, it is justifiable to assume that the tissue-fluids, being inimical to the existence of bacteria, find in the cells some attraction, some chemical substance which suits them, hence the cells are not the enemies of the bacteria but their places of refuge. In many infectious diseases it has been shown that leucocytes and similar cells are the places where the bacteria grow, and that those cells are ultimately destroyed by them. The cells succumb to the bacteria, not the bacteria to the cells.

9. The explanation of immunity is to be sought in properties of the cell-free blood-plasma. The blood-plasma of animals immune against a certain disease, injected into a non-immune animal suffering from the same disease, arrests the progress of this disease. The blood of dogs made immune against tetanus possesses a powerful anti-toxic action against tetanus. Tetanus in human beings has been cured by injection of tetanus antitoxin.

10. Buchner holds that the first and decisive inimical influence on the infective microbes in a refractory animal and in living tissues is due to the chemical action of the tissue-juices; this precedes the taking up of microbes by the leucocytes; this latter phenomenon is dependent on the former, and without the former primary process phagocytosis is impossible.—*N. Y. Med. Rec.*, July 22, 1893.—*Epitome of Medicine*.

#### NIGHT AIR.

Before we can hope to fight consumption with any chance of success we have to get rid of the night air superstition. Like the dread of cold water, raw fruit, etc., it is founded on mistrust of our instincts. It is probably the most prolific single cause of impaired health, even among the civilized nations of

our enlightened age, though its absurdity rivals the grossest delusions of the witchcraft era. The subjection of holy reason to hearsays could hardly go further. "Beware of the night wind; be sure and close your windows after dark!" In other words, "Beware of God's free air; be sure and infect your lungs with the stagnant, azotized, and offensive atmosphere of your bedroom." In other words, "Beware of the rock spring; stick to sewage." Is night air injurious? Since the day of creation that air has been breathed with impunity by millions of different animals—tender, delicate creatures, some of them—fawns, lambs and young birds. The moist night air of the tropical forest is breathed with impunity by our next relatives, the anthropoid apes—the same apes that soon perish with consumption in the close, though generally well warmed, atmosphere of our northern menageries. Thousands of soldiers, hunters and lumbermen sleep every night in tents and open sheds without the least injurious consequences. Men in the last stages of consumption have recovered by adopting a semi-savage mode of life, and camping outdoors in all but the stormiest nights. Is it the draught you fear or the contrast of temperature? Blacksmiths and railroad conductors seem to thrive under such influences.—*Good Health.*—*Medical Review.*

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#### MIGRAINE—ITS CAUSATION AND TREATMENT.

By WHEELTON HIND, M. D., M. B., F. R. C. S., F. G. S.

Ever since I was quite a little boy I have been subject to well marked attacks of migraine, and naturally in my practice have paid much attention to this complaint, and taken great interest in watching the various manners in which it affects my fellow sufferers, and as I have to a large extent, I think, especially in my own case, been able to identify the determining cause of the attacks, and by avoiding these to remain comparatively free for some years at a time, I thought that my friends of this branch would not mind listening to the recital of the peculiar train of symptoms which constitutes my attacks, and as I have notes of a few other cases, besides my own, which differ in causation and kind, but which have proved amenable to the same lines of treatment, that I might be able to add a small amount of fresh knowledge of the causes and treatment of this annoying complaint.

My own attacks have been wonderfully constant in their train of symptoms until fifteen months ago, when symptoms began to vary in an interesting way. They were always of two entirely different kinds, which never by any chance passed

into each other. The slighter form, which I shall pass over for the present in a very few words, being a simple headache, situated at the back of the brain, which incommodes thought and action in no way, and was only annoying on account of the pain which was increased by movement and mental exertion. This headache always comes on during sleep, and I wake up with it; it generally lasts till the middle of dinner, or perhaps a later meal, when it disappears as suddenly as it came, evidently due to brain exhaustion. I have induced a similar state by hard work all day without food. Pressure and application of cold seem to relieve this attack.

The more troublesome form has four distinct stages which, till the summer of 1891, always without exception succeeded each other with the greatest regularities.

Most of the attacks have commenced between 10 A. M. and 4 P. M. Only on two occasions before that time these happened when I had been out at night at labor cases. Occasionally only did any begin after 4 P. M.

My first knowledge that anything is wrong is a peculiar affection of vision, a blurring of part of the optic field, so that I can not see the central portion of an object. If I try to read I see only some of the letters, but always more plainly at the periphery of the field. I have not the classic serrated (fortification-like) outline, and till '91 there was no movement—both eyes were always affected. Since that time there has occurred with the scotoma a wavy movement toward the centre with colors, reminding me of those centripetal kaleidoscope slides sometimes shown in lanterns; but whereas an attack of loss of vision only never aborted, those initiated by the moving scotoma frequently do so with or without slight headache, and since '91 many times one eye only has been affected, and then always followed by semi-crania of the opposite side. In Fagge's "*Medicine*" it is stated that Sir John Herschel's was the only case of unilateral scotoma, and the author doubted the statement of the patient. However, I am satisfied that the unilateral condition exists, and it is brought into prominence in my case by the crossed headache.

I found that during this stage my pupils react normally to light and accommodation, and the only other premonitory symptom is a feeling of impending trouble, but there is no headache, nor as yet gastric symptoms.

The stage generally lasts about quarter of an hour, and passes gradually into stage 2, the vision becoming normal, being succeeded by headache, chiefly frontal, and at the back of the eyes, which gradually becomes more and more intense. There is generally, early in the second stage, a movement of



the bowels and some diuresis, salivation, and a feeling of discomfort at the epigastrium, which passes into nausea and acute vomiting, often with great strain. At first only the contents of the stomach are voided, but later on small quantities of greenish, bitter material, but no mucus. This state of things goes on for a variable time, often half an hour, and the headache becomes more intense, with a general feeling of great misery, chilliness and apprehension; the pulse is increased in extension, but not in rate; temporal arteries are more plainly felt and cord-like to the touch. Then after some restless tossing I pass into stage 3, which is one of sleep, dreamless and deep, which lasts an hour or so, and wake up in stage 4 free from headache, but with a peculiar washed-out sensation in the brain as if it has passed through a great storm; any movement still brings back a little headache, but now at the back of the head, and resembling the headache or exhaustion described above. There is generally a desire for some simple food—toast, and especially a cup of tea. The stage generally lasts a couple of hours and I am all right; but in 1891 I experienced quite a new and not a very agreeable departure, for stage 4 was not fully passed before the whole train of symptoms recommenced again—vision, vomiting, headache, sleep, and some days I had four or five successive attacks which I considered to be a status migrainicus, an analogous condition to the status epilepticus. This condition has only occurred three times in my own experience, but I have seen it in others; each attack of this state seemed to be induced by taking even the smallest quantities of any food or drink into the stomach.

I should say that neither father, mother, or any of my brothers and sisters suffer in this way. I will now give in her own words the train of symptoms of a very similar case.

The patient is a young lady of sixteen and a half years, whose father had similar attacks in his youth and early manhood. She says: "The attacks generally commence before dinner, never after a meal, always with a violent headache of sudden onset. I generally feel very well indeed about a quarter of an hour before an attack. I can not see properly just looking at anything casually; I only see part or half of it. If I look very hard at where I know the unseen part to be I may see it, but lose sight of what I saw before. To put it shortly I can not see a whole object at once; I see things as a dream, or as if a film was over my eyes. The next symptom is membranes with pins and needles which affect one side of my face, limbs and body only at a time. This feeling is not continuous, sometimes grows better or worse. Vomiting nearly always follows, and the headache gets worse and worse until it becomes a violent



pain and I can scarcely hold up my head. It never gets better until I can get to sleep. The attacks vary very much in severity, and when very bad I lose the power of speech, or substitute wrong words, making what I want to say quite unintelligible to those by me. When the numbness is on my right side I also have no knowledge of what I have said, and I lose the power of thinking. Any noise is unsupportable. The attacks generally go in a few hours or about tea time, and I feel better after having something to eat; then as long as I sit still I feel quite well, but when stooping or moving a sharp pain shoots through my head. Next day I feel weak. The attacks do not come at any stated time" (they have no connection with the menstrual periods); "I may be free for a year, or have two or three in a month. I have had similar attacks called bilious, all my life, although I did not notice any visual disturbance until three years ago. I can not say there were none, as I may not have noticed it at that age. I am convinced that nothing I eat or do brings on an attack, and I do not think that reading or painting for some time cause them."

This case shows an interesting set of symptoms in the unilateral anæsthesia and inco-ordination of speech and the loss of memory of words, symptoms which would indicate very grave brain changes under other circumstances. Whatever be the cause of the disturbance, and constant as it always is in the parts of the brain affected, on account of its temporary effect, I can not but think that it is of the nature of a poison which has a selective action on certain centres. This point I propose to discuss later on, when speaking of the predisposing and determining causes.

Another case I have to mention is one of the most troublesome I have come across.

A married lady, æt. 35, who had suffered more or less all her life, and whose mother had angina (a neurotic form of disease), tells me that her attacks are always ushered in by a feeling of woodenness and peculiar sensation in the head, which passes on to intense headache with acute vomiting, during which stage she has frequent shivering fits and general clonic spasms of the trunk muscles (these are not accompanied by a rise of temperature), but the hands and feet are cold, and the pulse is very slow and of high tension. She appears to have no visual trouble, although there is great pain at the back of the eyes. She is quite incapacitated by these attacks, and obliged to go to bed, when after a few hours' sleep, she wakes better, but with a feeling of emptiness in the brain and neuralgia pains on movement. She had influenza about twelve months ago rather badly, and since that time the attacks have

been more severe and more frequent, and she has passed for some days into a status migrainicus, when the headache never left her, but was accompanied with exacerbations of pain and vomiting. These attacks always commence at the menstrual period, and since the influenza there has been some neuralgic pain in the left ovary and thigh coming on in the middle of the night. The patient was completely free from attacks during her pregnancies. Her attacks seem to be induced by mental excitement. Concerts, theatres, parties and picnics nearly always bring on an attack during the evening, or even at the performance itself, due probably to an extra expenditure of brain nerve force together with the postponement of the ordinary meal.

The next case I have to mention is curious on account of the complete change of symptoms which have occurred of late years. A lady, æt. 45, who has been all her life the subject of well-marked migraine, and who was at times laid up for some time with the complaint, found that she no longer had headache, but that indeed she became subject to attacks of pain in the right hip and ovarian region, causing temporary lameness of the same leg. She says that the general feelings of malaise and prostration are just the same as those she had with the headaches, and the vomiting continues to accompany the present train of symptoms. The attacks now generally last from a few days to a fortnight, then they are absent it may be for months. In this case there is congenital absence of uterus and very small *cul de sac* of vagina, and though there have been attempts to menstruate, probably, and from the history I think, per urethrum, there has been no regular catamenial flow. I might quote many other cases, but the preceding ones are so typical of the complaint, and include nearly all the symptoms which seem to arise, that I think it unnecessary to do so.

*Causation.*—Speaking of my own case, I have generally been able to trace the majority of my attacks to certain definite articles of diet. These are curious, and when a lad I always found that to eat ripe blackberries invariably produced an attack within a few hours, an attack typical in all its symptoms, though in a tart or as jam they were quite innocuous. This was the only form of fruit which seemed to poison me till 1891, when strawberries, raspberries (these not invariably), green-gages and plums began to produce attacks, but never if eaten with sugar and cream or cooked. Belladonna, too, taken as medicine or absorbed, on two occasions produced attacks; these were due to the ocular paralysis which produced indistinct vision, and so started the peculiar train of symptoms. Another

cause is overwork, loss of sleep and want of food, but these rarely bring on an attack. I once had an attack after eating some white sugar. When once I am the subject of this trouble, I have known the simplest things induce relapses—*e. g.*, milk, toast, tea, wine, and find that great care is necessary as to diet for some hours.

Few of my other cases can point to such definite determining causes acting as poisons, but they often refer to brain excitement, irregularity of meals, bright lights, crowded rooms, mental effort and ovarian disturbances as the chief factors of causation. Many cases show that migraine is markedly hereditary, and that females suffer more than men. Popularly the complaint is always referred to as some derangement of the bile, a synonym being bilious headache; but I have never found any indication of liver trouble; indeed, I think I may say that all cases I have met with have strong and perfect digestive and assimilative powers in the intervals between the paroxysms, and the symptoms are very different from those head troubles which occur in dyspeptic and liver complaints. Probably the popular notion has arisen from the fact that some patients, like myself, can distinctly trace the origin of an attack to some poison absorbed by the stomach.

Excessive expenditure of brain force is a frequent factor in other cases; prolonged study, mental concentration; and in some cases, owing to the periodicity of the attacks, a malarial origin has been considered by some to be a cause, but probably brow ache belongs to a different class of disease to the one under discussion. Trousseau pointed out a close connection between migraine and the gouty diathesis.

Fagge completes his masterly description of this neurosis with the following words: "It would seem that we can form no clearer conception of the attack of migraine than that it is a 'nerve-storm,' the result of an irregular accumulation and explosive discharge of nervous irritability." A (to my mind) meaningless concatenation of words, for in the first place the term nerve-storm conveys no physiological or pathological conception to me, and terms of this sort beg the whole pathology of the question, and are always tantamount to a confession of ignorance. We know nothing whatever about accumulation or explosive discharge of nerve force, and such theorizing does not help toward a true solution of the causes and pathology of this troublesome affection. Indeed, an expression of this sort from a high authority may have the reverse effect. That no gross pathological change occurs is evident from the rapid restoration to health after each attack, and that no predisposition to future brain trouble seems to



obtain in those subject to migraine; the determining causes of an attack are therefore of a temporary nature, and seem to me to be of two classes:

(a) Active poisons of gastric origin.

(b) Brain starvation, by overwork, from deficiency in the blood in the brain of certain food stuffs—*e. g.*, sugar, fats, which bring about vasomotor disturbances, resulting in an increase of intra-cranial blood pressure, which affects the sensory centres only, chiefly the optic thalami and corpora quadrigemina.

Besides the determining causes, predisposing causes must play a great part. Of these the most common are hereditary influence and intellectual activity. I think I may say that all people that I know who are liable to migraine are mostly head-workers, many of whom are above the average in mental power.

Some writers consider that there is some connection between epilepsy and migraine, and have laid stress on the analogous train of symptoms in the two diseases. Personally I have never seen cases of migraine which at all simulated epilepsy. There is never any loss of consciousness, tonic convulsions, or tendency to insanity which characterize the graver form of disease, neither have I found cases numerous enough to advance as evidence in which hereditary epilepsy or migraine have passed into each other, although I could not deny that it was an impossibility, or that there may be a few cases which would, if taken by themselves, point to such a relation, but I contend that in the greater number of migraine cases there is not the slightest epileptic or hereditary brain taint.

The treatment naturally comes under two great heads, and has for its object the prevention of attacks and the alleviation of the paroxysms themselves; while I think much can be done under the first, very little seems to avail when the attack has once begun. Naturally in those cases where certain articles of diet seem to initiate attacks, those food stuffs must be rigidly eschewed. Generally speaking, I think highly of a diet rich in sugars and fats; the former given as preserves, etc., the latter as cod liver oil. Personally I have, I think, derived great benefit from marmalade taken every morning at breakfast and honey at tea time, and some form of stewed fruit with sugar at dinner. The want by the brain of sugary food was suggested to me by Dr. Goodhart, who said he had found it very beneficial in many cases, and that he noticed a tendency of migraine sufferers to avoid sweets. As medicines I find arsenic, nitrohydrochloric acid, strychnia, superphosphates, and iodide of iron given for a month or so to do a great deal



of good; and in cases where stomachic trouble seemed to preponderate an acid mixture with bismuth. A great help is the exposure to the sun's rays; in fact any factor to increase nutrition; but of all the drugs I regard arsenic as the most important and most useful.

With regard to treatment, when once the attack has commenced I have only found one drug which has any effect, and that is antipyrine, but it does not do good in every case. I have tried it personally, but I think that though it relieves the headache to a certain extent another attack begins soon after and recovery is really delayed, and it is really better to let the attack have full fling. Bromides, hydrobromic acid, cannabis ind., quinine, I have found in my own case worse than useless, and until vomiting is over I fail to see that we can hope for much benefit from drugs. Bismuth and acids, hydrocyanic acid, do not seem to relieve vomiting and other gastric symptoms in any way. A mustard application to the epigastrium has seemed of service in the more prolonged and recurrent attacks. Sleep, indeed, seems to be the great object to be obtained; whether drugs are desirable to induce this state I can not say, but I doubt it. I find gentle, monotonous reading to be the best soporific for me at these times, and once asleep the worst is generally over. Directly on waking I always take tea, which does a lot of good. Latterly to patients I have given caffeine in two-grain doses, with good results; but before sleep tea is as quickly vomited as anything else.

These, then, are the general lines of treatment, and so far from being the trivial and incurable complaint it is generally regarded by the public, I feel sure that much can be done to prevent attacks and to diminish their frequency; and it is especially important to do so in the young, for as one increases in years the attacks generally become less frequent and less severe.—*Prov. Med. Journal*.

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## GYNECOLOGY AND OBSTETRICS.

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### DEATH OF THE "FATHER OF OVARIOTOMY" IN ENGLAND.

Whilst the credit of the operation of ovariectomy has been conceded to Ephraim McDowell, of Kentucky, the credit of introducing and popularizing this procedure in Europe has been awarded to Mr. Charles Clay, of Manchester, England. The death of this remarkable man, at the advanced age of 92, took place at Poulton-le-Fylde, England, on September 19.

Few men in the medical profession have lived so long and to so useful a purpose as Mr. Clay. The service he rendered

to abdominal surgery will survive long after his noted personality has been forgotten. In every sense he was possessed of a strong and vigorous character which impressed itself upon every phase of work which engaged his attention. In September, 1842, whilst engaged in a large general practice, Mr. Clay performed his first operation of ovariectomy, removing a growth weighing thirty-six pounds. The patient made a prompt recovery. Following very closely upon this case he operated in fourteen more cases with a similar result.

He had seen Lizars operate in 1823, but he claimed that he was the first surgeon in Europe who had operated by the large incision. Up to 1857 he had operated on 395 cases with a mortality a little over 25 per cent. Sir Spencer Wells began his career in 1858, after having witnessed an operation performed by Mr. Clay. Mr. Clay at that day was ahead of all other surgeons in this field, and he had placed the operation upon the footing it has since occupied.

In 1845 he performed with success the extirpation of an entire fibroid uterus, and hence was in the lead of all other operators. His claim to the title of "Father of Ovariectomy" was conceded to him by Mr. Tait and others.

Apart from his great work as a surgeon, Mr. Clay was an authority in geology, archæology and numismatics, and was the author of a large number of books and pamphlets on various subjects. During his entire life he was a vigorous and incessant worker. He referred to his life's work in the following language: "Some men have got baronetcies, some wealth, some position at court, but I have got peace of mind." These words were characteristic of a man who led an active, useful life, singularly exempt from affectation and self-esteem and noted for its earnestness and simplicity of purpose. That he should have reached a ripe old age possessed of every faculty, interested in medical and general topics and devoted to the pleasures of his garden, is an illustration of the fact that the most earnest and serious duties do not forbid, even to the busiest of men, the pursuit of studies and avocations which are conducive to long life and rational enjoyments.

The life of such a man as Charles Clay is worthy of the most careful study.—*Maryland Medical Journal*.

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#### MASTITIS—ITS TREATMENT.

By M. R. MITCHELL, M. D., Professor of Obstetrics, Kansas Medical College.

The sorrows of maternity do not end with bringing forth children.

When the babe is first wrapped in swaddling clothes, the responsibilities of the obstetrician are but fairly begun.

By derangements of the breasts great suffering is often experienced, the mother's convalescence much complicated, and the child's welfare sorely tried. One of the most common of these derangements is suppurative mastitis.

The general indications are swelling, hardness of some part, or, it may be of the whole of the mammary gland, with tenderness, pain, lymphangitis evidenced by the appearance of red lines on the surface of the gland and in the axillary region, with more or less rise of temperature and pulse, and sometimes pronounced rigors.

It is easily diagnosed from tuberculosis of the mammary gland by the indication of acute inflammation.

The disease presents itself in varied degrees of intensity. From the tender lump to the multilocular abscess which occupies the whole of the gland filled with pus and broken down connective tissue, incurring weeks or months of intense suffering and exhaustion, with permanent impairment of function of the gland.

For clinical study of the pathology and treatment experience perhaps justifies the usually classified varieties.

Thus, first, superficial or subareolar, shown by soreness, redness, swelling at a point on the surface near the nipple, which soon suppurates.

Second. It is submammary, deeply seated in the connective tissue between the gland and the pectoral muscles. The symptoms are general swelling and prominence of gland, great pain, high temperature, no redness, and often attended with chill.

The third variety, the most common form, is parenchymatous, located in the body of the breast, commonly involving both the glandular and the interglandular connective tissue. Its special symptoms are circumscribed prominence and redness with the other usual indications of local inflammation and supuration.

Mastitis may occur in any case, and at any time during lactation, or even non-lactation, but it is most apt to occur in the primipara, and in the first three or four weeks of lactation.

In the primipara these rudimentary organs are at first severely exercised. Imperfect development or depression of the nipples intensify the effort to secure lactation, resulting in the wounding or removal of the epithelium. This mechanical irritation, with a want of cleanliness, produce excoriated or fissured conditions of the nipple, which are the most frequent predisposing cause of the disease.

The opinion has been quite prevalent that abscess of the breast may follow as a direct and necessary consequence of



engorgement, caused by imperfect flow of milk, by drafts of cold air, blows and bruises. But this view is hardly consistent with the accepted theory of parasitic causation of suppuration. Such conditions can reasonably be regarded as only producing a susceptibility to abscess, the ultimate consequence of the entrance of microbes through the wounded epithelium of the nipple, or it may be rarely auto-genetic, from the general septic character of the blood of the mother.

In calling attention to the treatment I wish to emphasize the responsibility of the obstetrician as to the preventive attention.

The primary care of the breasts should not be left to the patient and nurse, but should have at least the personal direction of the obstetrician himself.

Necessary precautions to prevent excoriation of the nipples should be minutely directed, and particularly as to thorough cleanliness and protection of the nipples from irritation.

A good rule from the first, after each nursing, is to cleanse the nipple with a saturated solution of boracic acid, also the child's mouth with the same solution.

Endeavor to guard against over-distention and congestion of the breast by suitable compression and support. If excoriation or cracks of the nipples appear, the above cleaning should be kept up, also boracic acid ointment, or the co. tr. benzoin may be applied with great benefit, and the breasts kept carefully covered with dry absorbent cotton.

Too frequent or prolonged nursing must be avoided. If the fissures become deep, nursing must be suspended for a time.

In case of a circular fissure at the base of the nipple a few applications of collodion with a little cotton may render such protection as will secure healing of the fissure.

Great benefit is sometimes rendered by touching these fissures with the pointed stick of nitrate of silver. In many of these cases of excoriation and fissures of the nipple, a suitable shield may often be effectually used, the process of nursing continued with little pain and the restoration of injured nipple attained much more readily.

But if nursing is attended with considerable pain, and there appears any indication of threatened inflammation and supuration of the breast, nursing should certainly be suspended, strict antiseptic care pursued, engorgement relieved by compression and support of breast bandage, a skilful and intelligent application of massage with some emollient, an occasional bathing of the gland with solution of acetate of lead and opium, repeated doses of a saline laxative, which by its derivative



effect assists in draining the lymphatic channels of the mother, should be given.

When suppuration becomes inevitable or has already set in, the question of lactation is an important one. If there is a reasonable hope of an early termination of the disease without serious involvement of the gland and a safe preservation of the function it should be done. When the abscess is superficial, or involves but a small portion of the gland, we may expect to suspend the babe's nursing only temporarily, but in all aggravated forms we should promptly decide to suspend it entirely.

Whenever pus is formed it should be immediately evacuated by a free opening.

In the submammary or parenchymatous varieties, where the pus is located deep in the organ, the incision should be made only through the skin and subcutaneous tissue, then a grooved director should be forced into the pus cavity, along which may be passed a pair of scissors or spreaders, by which the opening may be enlarged so as to introduce the finger to break down the diseased tissues and open up additional cavities. Where the pus cavities are deeply seated, there should be free drainage and washing out with boiled water. In old cases, when the pus has been decomposed, some antiseptic wash is indicated followed by an antiseptic gauze dressing. As a rule in these operations an anæsthetic should be given. In all cases poulticing should be rightly discarded, but absorbent cotton should be used as a dressing. In some instances hot fomentations may be temporarily applied where there is severe pain.

The general condition of the patient in many cases demands attention, such as support and rest.

The chief points to be observed then are prompt prophylactic attention, especially to the nipple. If abscess is imminent or does already exist, take the baby from the breast, secure rest to the organ, immediately evacuate the pus.

Thorough cleanliness and antiseptics all the way through should be rigidly employed.

If the whole technique of attention embracing the above as the principal points are strictly carried out, under the personal supervision of the obstetrician, child-bearing will be deprived of at least some of its horrors.—*Medical Review*.

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#### TREATMENT OF VAGINITIS BY PEROXIDE OF HYDROGEN.

Dr. Herman L. Collyer states that he has been able to cure his cases more speedily by its use than any other means that he is aware of. It is his custom in the treatment of a case of vaginitis (purulent), first to wash the parts with warm creolin

water in the strength of half a drachm to the pint, getting rid of all the secretion possible; then through a glass or rubber cylindrical speculum to thoroughly wash out the vagina. He uses peroxide of hydrogen plentifully, either full strength or diluted with lukewarm water, and rubs the surface with a pledget of cotton, withdrawing the speculum at the same time (but not allowing it to come out) so as to allow the peroxide to get deep into the crypts, destroying the progenic membrane and the gonococci, if any have imbedded themselves in the epithelium: he treats the vagina throughout in this manner, and also the vulva, especially in the folds of the labia and the orifices of the Bartholin ducts. Having destroyed every vestige of the pus with the peroxide of hydrogen, he pours into the speculum about an ounce of a solution of nitrate of silver, half a drachm to the ounce, and coats the denuded membrane throughout, inserting a strip of iodoform or aristol gauze to keep the parts separated, swabbing the external parts with the same solution, fifteen grains to the ounce. This process is repeated every second or fourth day, as the case demands. The patient is instructed to remove the gauze on the following day and to use, in acute attacks, a cool, weak solution of the lotion plumbi et opii or a solution of muriate of ammonia two or three times a day. When the symptoms become milder, the use of astringents is necessary. In specific vaginitis the endometrium and the urethra have often become affected, and these cavities are treated in the same manner, of course observing the precautions necessary for each, in all cases securing free drainage.—*Med. and Surg. Reporter.*

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#### PUERPERAL ECLAMPSIA.

By T. E. CUNNINGHAM, M. D.

It must be conceded, I think, that this is one of the most dangerous and alarming conditions to be met with in the practice of obstetrics. It destroys more lives than any other puerperal affection, in proportion to frequency. Statistics are not very reliable on this subject; but taking a moderate estimate, it probably occurs once in four or five hundred deliveries, with a mortality of about 30 per cent. for the mothers and 50 per cent. for the children, although some authors place it much higher.

In an experience of two thousand obstetric cases, eclampsia was encountered three times, twice at the commencement and once before labor, and all were primipara who were suffering from albuminuria. One of the patients was very dropsical; and owing to the difficulty of re-establishing the function of her

kidneys, complications rapidly followed, which caused her death. The other two slowly but perfectly recovered; one has been delivered since of twins and enjoys good health, whereas the other, who was delivered last December, and apparently made a good recovery, is suffering from chronic parenchymatous nephritis, which, judging from a recent examination of the urine, is in the inactive stage. Two of the children were born dead, the other dying on the third day. This is not a very brilliant showing; and yet it would seem that, in the light of modern science and with the wisdom of the ages to guide us, one ought to be able to cope more successfully with this terrible malady.

Our literature is replete with theories relating to the mysteries which surround its etiology and therapy; but considering that the questions are still *sub judice*, we take up each new journal wondering what the next speculator will have to say. From the repletion and depletion theory of Hippocrates to the bacteriological theory of Gerdes is quite a lapse of time; but it requires very little knowledge to enable one to appreciate the clinical value of the ancient as compared with this modern view of the subject. From a study of the work of different authors and a limited bedside experience, it would seem that we are in possession of all the theories for the explanation of the obstetric phenomena. The difficulty all along appears to have come from trying to make one or two factors do what it takes several to accomplish. We have been taught so long to consider eclampsia as closely allied to albuminuria, that disturbance of functions, other than those of the kidney, has received but indifferent attention until within a comparatively short time. It is not to be inferred that this is not an important factor, but that the renal affection alone rarely is sufficient to produce convulsions. It is only a part of a whole, a collective cause, the other parts consisting of pregnancy—usually the first—a watery condition of the blood, and high nervous tension. It is a matter of common observation that women looking forward to first motherhood suffer more from excitability of the nervous system and emotional disturbances than they do in subsequent ones; and when it is realized that this state of things is kept up, perhaps for weeks, exhausting the nervous system and lessening the power of resistance, it is easy to conceive how favorable the conditions are for an explosion, particularly after the noxious elements begin to accumulate, through faulty elimination, whether it be due to pressure on the ureters, renal insufficiency pure and simple, hyperæmia or acute or chronic nephritis.

The treatment of eclampsia is as varied as its etiology. For the sake of brevity the various means may be enumerated

as follows: (1) chloral or chloroform, (2) morphine, (3) venesection or veratum viride, (4) induction of labor. Of course, other medication is called for, such as cathartics, diuretics, diaphoretics, cold to the head, sinapisms to the extremities, and proper conditions of temperature and ventilation, according to the special indications of the case. As the trouble may appear before, during or after labor, an opportunity is offered for the exercise of good judgment in the selection of the right method or methods of treatment.

In the second class of cases, which is by far the most numerous, the consensus of opinion seems to be in favor of hastening delivery. I adopted this teaching in two cases of this class, but do not think I would be so rash again, since nature will do the work much better than we can, if we only sustain her. It is thought that the os under these conditions is soft and dilatable; but it is not always so, and the time consumed in manual dilatation may be an opportunity lost. To allay nervous excitement and control spasms is of first importance; then the other conditions can be studied more leisurely, and the suitable means adopted to combat them.

The first patient was a plethoric young woman; and I think she might have been saved had bleeding been resorted to, since by this means the blood-tension of the cerebral vessels would have been diminished and prevented the extravasation that killed her. Routine treatment is as objectionable here as in any other department of medicine.

The second case was an anæmic woman, with conditions just the opposite in every particular to the first; and if I had given her chloral, and waited for a natural delivery, she probably would have done better and given birth to a living child. As it was, her recovery was protracted, and much of the delay was due to unnecessary manipulation.

In the first class of cases, or ante-partum eclampsia, there are no pains, and labor may not be due for some time; and it is still a vexed question what are the best measures to adopt under these circumstances. The induction of labor is recommended by some who consider you are guilty of double murder if under these circumstances you question the procedure; whereas others, more conservative, recommend it only after all other means have failed. Lusk says: "The practice of waiting for nature proved uniformly disastrous, whilst the induction of labor furnished a certain proportion of recoveries."

Nevertheless, I took exception to this well-known teacher, and treated the third case on the expectant plan. There was an interval of a week between the first convulsion and the delivery; during the first twelve hours there were five convulsions,



and the patient complained of severe headache, blurring of sight and nausea; the secretion of urine was diminished, with a specific gravity of 1.008, and contained  $\frac{1}{2}$  per cent. of albumen. The bowels had been constipated just before the first attack. The usual remedies for restoring the functions of the stomach, bowels and kidneys were administered; but as they did not operate by the time the fifth convulsion supervened, sixty grains of chloral were given, per rectum, with orders for half that amount to be given every four hours. During the next twenty-four hours the bowels were moved and the stomach settled; nourishment was taken, and, although she complained of headache, she was not nearly so nervous. The urine, collected after the convulsions, was chocolate-colored, had a specific gravity of 1.040, and solidified on boiling. The sediment, examined microscopically, showed renal epithelial cells, blood globules, and hyaline and granular casts. Five days from the time of the first seizure she had three more convulsions, which were controlled by large doses of chloral. In two days labor set in; as, at the end of the first stage, inertia threatened, Dr. Joseph Cunningham was called in assistance, an anæsthetic given, and the delivery of a living baby effected with forceps. The uterus contracted well, pulse 108, temperature 100 deg. The patient passed into a comatose state, and remained in it for four days. With the return of consciousness, it was found she was blind, and recognized her friends only by the voice. Sight returned in two weeks, and afterward the convalescence was uninterrupted. The infant died on the third day.—*Boston Medical and Surgical Journal*.

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#### UTERINE COMPLICATIONS, THEIR TREATMENT AND MIS-TREATMENT.

By P. C. PALMER, M. D., Kansas City, Mo.

The subject selected may be threadbare, yet the fabric is of sufficient integrity to justify the attempt to construct an article of perhaps some value from the remnant.

I shall pay particular attention to displacements, of which we have a varied host as regards the degrees of position:

First, *Versions* as theorized by our predecessors and the majority of gynecologists of the present day.

Second, *Flexions*.

Third, *Prolapsus*.

I assert that anteversion is a misnomer, and release it from my category. Retroversion, the flexions and prolapsus we find in their varying phases, distinct and complicated. Retro-

version being of comparatively slight importance, when uncomplicated, I shall not dilate on. It serves only as a stepping stone to worse troubles.

Though I assume all gynecologists are conversant with the different displacements, the different degrees of position are important as regards their effects and complications, and merit due attention.

It is quite common to meet with cases where the fundus is so flexed as to rest on the bladder, pressing hard thereon, the os in its normal position, pointing backward at different degrees, and in some cases pointing forward in a magnet shape, or even bent upon itself.

Next we find retroflexion, in all the varying degrees which characterize antelexion, the fundus pressing the rectum to a greater or less extent, the os pressing on or near the bladder, down and forward at different angles, or backward, forming again the horse shoe, or tightly flexed upon itself.

The flexions not uncommonly take on the form of inversion, while more rarely adhesions, or other causes, bring about lateral displacement.

Finally, the worst of the displacement is prolapsus, particularly when complicated with one or more of the other forms.

As regards causes for any of these conditions it would be an unpardonable infliction on your time and patience to attempt an explanation, there being nearly as many causes for these abnormalities as there are females suffering from the effects thereof.

With rare exceptions, by the time a flexion exists, or before, we have inflammatory troubles, an endometritis perhaps, but usually more extensive invasions have been made in the uterine tissues, and in the adjacent parts.

The cause and duration of any of these difficulties must largely determine the extent and physiological changes, and the resulting complications.

Although the flexions differ somewhat as regards position, they produce in their general effects a marked similarity, locally and constitutionally. To illustrate, an antelexion causes practically the same tension on the natural supports of the organ, and the same mechanical pressure, considering the degree of flexion, on the other pelvic organs, nerves, etc., as does the retroflexion.

With this exception, however, the former produces a more serious effect on the urinary organs, and the latter a correspondingly greater effect on the rectum, with a resultant tendency to constipation.

These two points, while not infallible, are an excellent guide in diagnosis, when an examination is denied us, or previous to making the same.

Adding to this schedule of abnormalities, inversions, stenosis, elongated cervix and subinvolution, we have an expansive foundation for a list of complications which follow in variations most multitudinous:

Constipation.

Incontinence.

Cystitis.

Vaginitis.

Cellulitis, Peritonitis.

Metritis, Endo and Perimetritis.

Salpingitis.

Ovaritis and inflammation of the relative parts.

Adhesion.

Ulceration.

Abscess.

Hysterorrhœa.

Granulations.

Amenorrhœa.

Dysmenorrhœa, Vicarious Menstruation.

Menorrhagia.

Menorrhœa.

Neuralgia and other neuroses.

Abdominal, pelvic, lumbar and other pains.

Headache, Vertigo.

Melancholia, Nervousness and Hysteria.

Anæmia.

Leucorrhœa.

Acquired pulmonary consumption.

Pregnancy, Abortions.

Extra-uterine pregnancy, Hæmatocele.

Fibroids and other tumors, such as Sarcoma.

Intraligamentous, Multilocular, Unilocular and Dermoid Cysts.

Cancers.

In tabulating this list of complications I do not in the least exclude the possibility of other difficulties producing symptoms and conditions which resemble those of uterine origin, any more than I would assert a woman has no organ but the uterus which disease may attack. Many of the difficulties above enumerated exist independently of those under consideration.

We may meet with almost any number of fibroma and myomatous tumors in an individual case, and, strange to say, the number does not increase the danger, for when a large

number exists they are small, the single one being most mischievous. They grow slowly unless some complication arises, and stop at menopause, growing smaller, as a rule, thereafter.

The negress is more liable to these tumors than white women.

There is a close connecting link between these and sarcomatous and other malignant tumors which grow in the same locations. Any tumor which grows rapidly should be looked upon with suspicion. Cancer is the most fatal of all. Of this we may find any form save the scirrhus in the uterus.

The treatment must largely be peculiar to the individual case in hand, as each presents conditions essentially its own.

First and most important is to correct the abnormalities in the most rational and conservative manner the case demands, whether it be by medicine systematically, or by instrumental or surgical assistance.

To relieve suffering should be our first effort. Restore abnormalities to normalities, as best suits the individual case.

To express myself more definitely, let me cite one case. Mrs. C.; married eighteen years; three children; after allowing her troubles to grow constantly worse for fifteen years, presented on examination a marked retroflexion, the ulcerated of pointing backward as far as the subinvolted condition would permit, producing a closed magnet shape of the organ; strong general adhesions; ovaries three times the natural size; the tubes greatly enlarged, indurated and tortuous, and general inflammation, cellular and peritoneal as well.

The slightest touch to the excoriated vagina was unbearable, to say nothing of the pain produced to the other inflamed parts, by gentle pressure, externally and internally. Constipation, amounting almost to impaction, was of long standing. In short, every function of the body was disordered to an alarming degree. Seemingly a laparotomy was inevitable, but knowing their aversion to anything surgical, I was forced to try other methods.

I used hot fomentations; hot vaginal and rectal injections; opiates and other systemics; local applications in the uterus; electricity; elevating the fundus and retaining the position as far as gained by cotton tampons medicated, and as rapidly as possible as treatment progressed, breaking down the adhesions by instrumental and digital pressure. Though an early and continued improvement was manifest, many weeks elapsed before the patient could leave her bed. Soon after doing so, however, some indiscretion on her part, in the way of work, brought on a serious relapse, from which, as would be expected,



she improved more slowly than at first. Now, after eight months, she is around the house attending to household duties; riding out in suitable weather; suffering no pain; the ovaries subsided to normal size; no adhesions remaining; appetite good; skin clear; is rapidly gaining flesh, and the uterus is normal in position and size.

Ordinarily a laparotomy is to be urgently advised for the more speedy relief of cases of similar severity, and for the removal of abnormalities. Yet, as we know, nature can and does accomplish wonders, and we do well to imitate and assist nature as far as possible.

In the treatment of uterine displacements I never use a pessary, save in prolapsed or complicated cases, and never did.

In cases free from leucorrhœa or nearly so after improvement by treatment, instead of absorbent cotton I use antiseptic wool for tampons. This can be worn with as much comfort to the patient as cotton, and much longer, from three to five days or even more.

I almost always use electricity in any form of displacement, for more reasons than one; first, to shorten and strengthen the weakened and unnaturally lengthened ligaments and cords; second, to assist, as it does, the stimulation to a healthier action, of natural tissues, and hastening the absorption of unhealthy or diseased parts.

Suturing for the retention of the uterus in overcoming flexions I call mistreatment, for certainly we gain our best ends by imitating nature. Naturally there are no adhesions, and, save in rare cases, producing this condition is a result to be avoided.

I briefly summarize the *mistreatments*: Of constipation is to continually dose the patient with cathartics without the removal of mechanical pressure or other obstructions.

Of incontinence in neglecting to relieve pressure and irritation and strengthen the muscular portion of the bladder, sphincter and urethra.

Of cystitis in neglecting to use hot fomentations, counter irritants, irrigation with hot boracic acid solutions, and diuretics, of which *Apis mellifica* is the chief.

Of vaginitis in neglecting hot water injections and soothing and astringent applications.

Of reflex troubles in treating symptoms instead of eradicating the disease.

Of dysmenorrhœa in relying on opiates, teas, hot slings, "goose grease and molasses."

Of leucorrhœa by using suppositories and vaginal capsules and other devices of doubtful origin and efficacy, leaving the uterus, the seat of the difficulty, unnoticed and untouched.

Of cellulitis and other inflammations of the pelvic organs in doing without counter irritants, hot fomentations, alteratives and intra-uterine and vaginal applications.

Of lacerations, occlusions, stenoses, elongated cervix, cystic fibroid, and other tumors, abscesses, hæmatocele, etc., in tinkering to avoid an operation.

Of granulations in not curretting.

Of extra-uterine pregnancy in failing to cause destruction by electricity and the use of ergot in the early stage, or to do laparotomy at the earliest discovery at any later stage.

Of suppressed menses, acquired consumption, hysteria, vertigo, melancholia, nervousness. Anæmia leucorrhœmia, headache of a character commonly described by patients as a "hot sensation on top of the head" or a "drawing pain in the back of the head," in treating the symptom without referring to the female organs as the seat of the disease.

Of menorrhœa and menorrhagia in doing without ergot in some form, and in hemorrhagics, without astringents locally—tampons, cold applications, recumbent position and rest.

Of inverted uterus and pregnancy by mistaking them for tumors, hæmatocole, cystocoele, etc., and treating or operating accordingly.

Of miscarriage, without removal of every portion of the foetal tissues, membranes, etc.—in all cases where an abortion is inevitable, and without proper local after treatment.

Of malignant tumors, vicarious menstruation, retro-latero or ligamentous hæmatocele in neglecting palliative treatment or an operation for prolonging life, and giving a very unfavorable prognosis.—*Medical and Surgical Reporter*.

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## State News and Medical Items.

Dr. O. O. Hamner, of Bienville, La., was married October 22 to Miss Mamie Head, of Arcadia, La.

Dr. and Mrs. J. R. Fridge, of New River, La., are entertaining their first baby, a daughter, born October 19.

Dr. Hy. Biggs, of Grand Junction, Tenn., was called to Crowley, La., by the illness of his son.

Miss Lodi Wagram de Seay is the name of Dr. and Mrs. de Seay's youngest daughter, of Ruston, La., born recently.

Dr. Oscar Frith, of Mermentau, has moved to Alexandria, Louisiana.

Dr. George H. Lupton, of Missouri, has located at Dry Creek, Calcasieu parish.

Dr. W. S. Betts, of Meridian, Miss., was married September 14 to Miss Fanny Young, of that city.

Dr. George A. Ketchum, dean of Medical College of Alabama, attended the Pan-American Congress.

Dr. B. N. Alexander, of Holly Springs, Miss., died September 3, aged 72 years. The doctor practised medicine for fifty years in north Mississippi.

Dr. R. R. Lyons was married to Mrs. Ollie Merrill at Crowley, La., recently.

Dr. W. C. Wile, editor of the New York *Medical Journal*, was elected surgeon general of the Grand Army of the Republic at the recent meeting in Washington.

Of 1000 deaths in Europe sixteen are by violence; in the United States forty-one.

Doctor—"Well, Dennis, did you take the pills I sent you?"

Dennis—"Indade, doctor, an' I did not; ye wrote on the box 'One pill three times a day,' an' I've been waitin' till I see you to ask you how a man was to take a little bit av a pill loike that three times in wan day?"—*Harper's Weekly*.

Dr. W. H. White, of Brandon, Miss., died October 17.

Dr. A. R. Booth, of Shreveport, La., has been ordered to Brunswick, Ga., to aid in the treatment of the yellow fever sufferers.

Dr. J. N. Thomas, of Port Eads, was in the city recently.

Dr. P. M. Girard, of Lafayette, La., was married October 17 to Miss Lelia Singleton.

Dr. T. E. Schumpert has been elected as chief surgeon of the Shreveport, La., Charity Hospital.

In Great Britain the annual sick rate for each inhabitant is ten days in the year; in the United States eight days.

Dr. Lovett Burgess, who has been practising at Cheneyville, this State, has moved to Marksville.

The first degree of doctor of medicine was given in England in 1209, that of doctor of music in 1463.

Among the doctors who visited the World's Fair were P. E. Morgan, Baton Rouge; A. S. Gates, Franklin; Chas. Chas-saignac, New Orleans; J. S. Stephens, Jr., Natchitoches; Wirt Johnson, Jackson, Miss.; A. A. Forsythe, Monroe.

Dr. F. G. Renshaw, Pensacola, Fla., attended the Pan-American Medical Congress at Washington.

Dr. Wm. B. Towles, professor of anatomy in the University of Virginia and Vermont, died recently.

Dr. W. E. Moore, of Little Rock, Ark., aged 81 years, died September 11. He was the oldest practising physician in the State—fifty-five years.

#### CIRCULAR LETTER FROM LOUISIANA STATE MEDICAL SOCIETY.

NEW ORLEANS, October 27, 1893.

DEAR DOCTOR—The next meeting of the Louisiana State Medical Society will take place at New Orleans, commencing Thursday, May 29, 1894. We have every reason to believe that the coming meeting will be both interesting and instructive. All we require is your serious and earnest co-operation. Now is the time to begin. Can we expect a paper from you? It need not necessarily be a paper, but a report of a case or cases; in fact, any matter that may be of value to the meeting. We are sure you can do something.

Your interest in this matter is a personal one, and you should feel a pride in the advancement and success of the State Society, commensurate both with the importance and dignity of the profession of medicine, of which we should ever strive to be worthy members.

It is the solemn duty of each of us to contribute our quota to the advancement of its usefulness and dignity, no matter how unassuming that individual effort may be. We sincerely hope that you will take an active interest in this meeting and use your utmost endeavors to place the profession in this State upon the same basis as it is in its sister States. If you will lend us your hearty co-operation, success is assured.

Respectfully,

A. B. MILES, *President.*

ANDW. G. FRIEDRICHS, *Corresponding Sec'y.*



## THE CHARITY HOSPITAL.

## THE VISITING STAFF OF PHYSICIANS SELECTED—THE INSTITUTION'S FINANCES.

The regular monthly meeting of the board of administrators of the Charity Hospital was held October 18, Mr. A. R. Brousseau in the chair, Secretary Edwin Marks at the desk, and Messrs. Joseph A. Shakspeare, Geo. W. Sentell and Charles Seeman in attendance.

Assistant House Surgeon Bloom recommended the election of the following visiting staff for the next six months:

Surgeons—Drs. E. Souchon, E. S. Lewis, R. Matas, F. W. Parham, L. Sexton, G. B. Lawrason, R. U. Borde, S. Fortier, J. Laurans, C. Chassaignac, W. E. Parker, E. D. Fenner, I. P. Delaup, J. F. Schmittle, P. Michinard, E. D. Martin.

Physicians—Drs. J. B. Elliott, L. F. Reymond, Hy. Bayon, J. H. Bemis, H. S. Lewis, A. J. Bloch, G. S. Bel, F. H. Brickell, J. M. Soniat, W. R. Harnan, W. H. Knalle, J. S. Branch, J. T. DeGrange, T. S. Kennedy, G. F. Patton, P. E. Archinard, O. L. Pothier, F. Larue, J. M. Elliott, H. E. Menage, A. Ledoux, B. A. Ledbetter, H. R. Baker.

Oculists, Aurists and Laryngologists—Drs. H. D. Bruns, E. W. Jones and O. Joachim.

Dermatologist—Dr. Isidore Dyer.

Dentist—Dr. A. G. Friedrichs.

The finance committee reported as follows:

Income—From payment of warrant for July and August, \$10,000; ordinary sources, \$2786.89; total, \$12,786.89; cash balance September 1, \$27,209.39; total, \$39,996.28.

Disbursements—Transfer to special fund, \$15,000; on account of improvements, \$3640.65; ordinary expenses, \$8477.69; total, \$27,118.34; cash balance September 30, \$12,855.94; additionally on hand, special fund, \$50,000; total, \$62,877.94.

The clerk's report for September showed: Patients in hospital September 1, 618; admitted, 772; foreigners, 244; United States, 528; discharged, 654; died, 89; daily average of patients during the month, 658; out-door clinic consultations, 5005; men and boys, 2436; women and children, 2569.

The report of the ambulance service for September was as follows: Number of calls, surgical, 47; medical, 21; dressed, 37; conveyed home, 5; died, 3; not needed, 8; transfer calls, 5; total, 126. There were two pay calls, \$20, and the average time of a call was 39½ minutes.

The board then went into executive session, and afterward adjourned.

# MORTUARY REPORT OF NEW ORLEANS.

FOR SEPTEMBER, 1893.

CAUSE.	White.....	Colored...	Male.....	Female...	Adults...	Children.	Total.....
Fever, Yellow .....							
“ Malarial (unclassified)....	10	5	11	4	14	1	15
“ Intermittent .....							
“ Remittent .....	10	1	5	6	10	1	11
“ Congestive.....	4	1	2	3	2	3	5
“ Typho .....	2	1	1	2	3		3
“ Typhoid or Enteric.....	3	1	1	3	3	1	4
“ Puerperal .....							
Leprosy.....							
Scarlatina .....							
Measles .....							
Diphtheria .....	12	4	9	7		16	16
Whooping Cough .....	4			4		4	4
Meningitis .....	6	2	6	2	1	7	8
Pneumonia.....	5	12	6	11	8	9	17
Bronchitis .....	7	2	3	6	1	8	9
Consumption.....	24	35	34	25	59		59
Cancer .....	7	4	3	8	11		11
Congestion of Brain.....	5	2	4	3	3	4	7
Bright's Disease (Nephritis) ....	17	8	15	10	25		25
Diarrhœa (Enteritis) .....	10	6	12	4	6	10	16
Cholera Infantum .....	5		2	3		5	5
Dysentery.....	4	5	7	2	7	2	9
Debility, General .....							
“ Senile .....	19	11	16	14	30		30
“ Infantile .....	2	2	2	2		4	4
All other causes .....	127	102	131	98	151	78	229
TOTAL .....	283	204	270	217	334	153	487

Still-born Children—White, 32; colored, 23; total, 55.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 18.41; colored, 35.22; total, 23.00.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### THE DIAGNOSIS OF SOME ABDOMINAL TUMORS SUPPOSED TO BE OVARIAN.\*

BY JAMES A. GOGGANS, M. D., ALEXANDER CITY, ALA.

VICE PRESIDENT TRI-STATE MEDICAL SOCIETY OF ALABAMA, TENNESSEE AND GEORGIA

The first requisite of the abdominal or pelvic surgeon is to acquire the ability to make a diagnosis. Our text-books often lead one to believe that this is quite an easy thing to do, and I have noticed that a few writers have, in referring to their diagnoses of a series of abdominal sections for different diseases, stated that no mistake in diagnosis was made in the whole series. Now, my experience, which I believe corresponds with that of many others, does not lead me to believe that the diagnosis of many abdominal tumors is always such an easy thing to do. And I wish to report a few cases which have come under my observation which will serve to illustrate the fact that the diagnosis of many cases is often difficult, and, in some cases indeed, quite impossible.

A woman, 25 years of age, was taken with pelvic pains after the birth of her first and only child. This pain continued for two years before the abdomen began to enlarge, and at the time I saw her and removed the tumor, the abdomen was extremely distended. The physician in charge of her had tapped

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\* Read before the Southern Surgical and Gynecological Association, November, 1893.

her three times, and had withdrawn large quantities of thin fluid, and was very positive in his diagnosis that an ovarian cyst existed. The abdomen was so full of fluid that all the landmarks were obliterated; I consequently could not make a positive diagnosis. However, I recognized it as being some obscure form of pelvic disease and opened the abdomen for its removal.

Upon opening the abdomen, a large quantity of ascitic fluid escaped, when a small dermoid cyst was found floating in the pelvis. She made a perfect recovery.

The following case is one of interest, since such a mistake in diagnosis is not commonly made. Patient, 30 years of age, had four or five children, the last two years of age. Her abdomen was becoming quite large, but at the same time she was having repeated hæmorrhages, and the diagnosis of pregnancy was made, with perhaps the complication of placenta previa. At the time I first saw her in consultation the abdomen contained quite a quantity of ascitic fluid in which there was floating a large, more or less solid tumor, fluctuation in it being very indistinct. In fact, the contents of the cyst were only semi-fluid. From the more or less fixity of this tumor, it seemed a very favorable case on which to operate, but as the chances for recovery without operation were slender, I advised the operation to be done, and here present specimens which were removed. You will perceive that one of them is a multilocular cyst of the ovary, and the other ovary, enlarged, solid, and in quite a different pathological condition. This patient made a perfect recovery.

The following case is one of extreme interest, and has already been extensively published, but I mention it here only to illustrate the fact that the diagnosis was impossible without resorting to exploratory incision.

Patient, 21 years of age, has been in bad health for about two years, but her abdominal pains had existed only about eight or ten months. The abdomen began to enlarge only about three months before I first saw her. Her father and brother, both physicians, and also several other physicians, had treated her for abdominal dropsy, and at the time of the first examination that I made I thought that I had to deal with an ovarian



cyst. Upon further investigation, I recognized it as some obscure form of abdominal cyst, whose attachments were high up in the abdomen, and which could only be elucidated by an exploratory incision. The incision was made and the cyst proved to be one of the mesentery. Long loops of intestines were deeply embedded in its walls, therefore the removal of its sac was impossible. A point on the walls of the cyst as remote as possible from blood vessels and intestine was incised and the sac emptied of more than a gallon of a thin, dark-colored fluid, the incised lips drawn into the abdominal incision, a glass drainage tube introduced to the bottom of the cyst, and drainage kept up until recovery was complete. This case is also interesting from the fact that it is the only case which has ever been reported in America in which recovery took place after operation for cyst of the mesentery, and perhaps the only case where operation was undertaken for exactly the same condition in this country. This operation was done in February, 1891, and the patient is still in perfect health.

I here show you a specimen which you will perceive is the uterus containing an interstitial fibroid with the appendages attached. She was 41 years of age, a great sufferer, and was anxious to have this tumor removed. I was called to operate for ovarian tumor, but the specimen explains itself, and was a supra-vaginal hystorectomy. The operation was done in a remote part of the country, ably assisted by my friend, Dr. Coley.

I remember to have seen a woman in the Samaritan Hospital, service of Dr. Bantock, who was examined by all the surgeons of the hospital, and the diagnosis of probable uterine fibroma complicated by ascites was made. She was operated upon by Dr. Bantock, and the tumor turned out to be a large ovariancyst with exceedingly thick walls, whose contents were only semi-fluid. Twist of the pedicle.

I am sorry to know that there is still a large number of worthy medical men who cling to the idea that the abdominal surgeon should still place all confidence in the use of the uterine sound in order to arrive at a diagnosis in disease of the pelvic organs, and also to require of him to make an absolutely correct diagnosis, explaining at the same time all the pathological

changes that have taken place before an operation is undertaken. Now, I must think that all abdominal surgeons of much experience often encounter serious difficulty in the diagnosis of many cases, and that we should exhaust every known means at our disposal to make a perfect diagnosis; but after doing all this there are still many cases where an absolutely exact diagnosis is impossible, but manifest serious abdominal disease exists, and our course is quite clear that we should not wait for the post-mortem table to clear our way, but should boldly make an exploratory incision and give the patient a chance for life. I could mention many more cases to illustrate the fact that many lives have thus been saved, which would without exploratory incision have been sacrificed.

I hope that I may live to see the day when all of our general practitioners of medicine will view this class of diseases from a broad standpoint, since such as are impossible of diagnosis will, if left alone, necessarily result in death without exploratory incision.

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#### TRAUMATIC INJURIES OF THE HEAD.\*

By JOHN T. CHAPMAN, M. D., BESSEMER, ALA.

It is with no little diffidence and apprehension that I offer this society a paper which is a theme that is being handled by men of more experience than I can boast of. By each of us bringing the fruits of his labor and offering it at the altar of the profession, we will reach the goal for which we are striving. I do not come before you with the promise of presenting new, and therefore interesting facts, yet all of us are earnestly looking and longing for them. Every statement, proposition or theory in any department of medicine, before it can be reckoned among settled facts, must be submitted to a calm and judicious consideration publicly and openly before the medical profession. It is hoped that it will elicit a full and frank interchange of experiences, and thereby help in some measure the progress of medicine in this department of surgery.

All traumatisms involving brain injuries were for many years classified as cases of concussion or compression. The

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\* Read before the Southern Surgical and Gynecological Association.

classification was undoubtedly simple and easy of comprehension. If the intra-cranial space was diminished by the intrusion of bone, serum, extravasated blood or pus, it was compression; otherwise all other brain symptoms were referred to concussion. I think that compression and concussion should be regarded as one, the one of more intense and of greater brain lesion than the other; but if these terms be discarded (for they have a tendency to mislead one), and were used instead such terms as laceration, general contusion, or fracture, with hæmorrhage, we could more accurately determine the character of lesion than if our attention be directed solely to a symptomatic condition that may not clearly exist. Fractures of the skull without complications are not only without importance, but they are devoid of symptoms. A simple fracture over the vault is often overlooked in the absence of pressure symptoms, and even when there is a fracture with spiculæ, the extravasation of blood often produces the most alarming symptoms. I give two cases in detail.

CASE I.—Mr. M., was a man of exceptionally bright mind, a picture of physical health, and weighed about 190. He was out riding, when the team became frightened and began to run; to save himself, as he thought, he jumped from the vehicle, which was a side-bar surrey, and in consequence thereof landed upon his head; he was somewhat dazed at first, but soon recovering himself he got up and walked home, about six blocks away. After resting a while he began to complain of soreness of the muscles, and said that once in a while sharp pains would pass through his brain. His friends thought it advisable for him to have a physician called, but he insisted that his injuries were not sufficiently serious to have one. He retired early, and, as his friends thought, dropped off into a quiet sleep. No attention was paid to him until next morning, when some one passing through the room noticed that his breathing was laborious, so they tried to arouse him, but finding that they could not, the family were notified, and I was sent for. On my arrival I found him in a semi-conscious or comatose state, no recognition when aroused by shaking; he would raise up, look around and lay down; there seemed to be no appreciation of objects, or pain or feeling.

Upon close examination I found two contused wounds, one a little above and anterior to the left ear, no abrasion; the other on a line two and a half inches superior to the occipital protuberance, this the larger of the two. While there was no decided cut, the wound bled freely; there was no paralysis, whole or partial; eyes normal, pulse rather slow, 62; respiration laborious; temperature,  $99\frac{1}{2}$  deg.; locomotion was not impaired, as in the latter part of the day his bladder became distended and wanted to relieve itself, he roused from this semi-conscious state, got up and went to the bidet (through force of habit), which was in its accustomed place, and passed his urine, also relieving his bowels. The reason that I claim it was mechanical with him is, I removed the bidet to another part of the room, and the next time his bladder wanted to relieve itself he went to the accustomed place and would have passed his urine upon the floor had I not placed a vessel to catch it.

My diagnosis at this time was compression, caused from hæmorrhage, as there were no signs by which I could locate a fracture. With these facts before me, and there being no immediate danger to life, I decided that operative procedure was unnecessary. I used cold applications to the head, such as cold cloth made by laying on ice. Finding that did not retain the cold for any length of time, I used the ice-bag. This was to control the inflammation, which I feared had already begun, as the temperature had increased to 102 deg.; large doses of iodide of potash every few hours to absorb the hæmorrhage; liquid diet was given, such as milk, beef tea, etc. This treatment was continued until the third day, when his symptoms began to improve. On the fourth day there was some recognition, and he would try and express his thoughts, or ask for what he wanted. On the fifth there was aphasia, Broca's speech centres and the isle of Reil was involved, as indicated by the aphasia; he understood everything that was said to him at this time, but could not regulate his speech movements, and was painfully angry if asked questions or requested to repeat. Later on there was paraphasia, for there were certain words that he could not pronounce and sentences that would be mixed and confused.

When asked to write the alphabet he would go as far as C,



stop, rewrite them until 26 had been written, and never going beyond C. I noticed at this time that the sensitive filaments of the pneumogastric nerve were affected. This was caused from pressure on the lower floor of the fourth ventricle. The sensory filaments are to be traced deeply through the fasciculi of the medulla, to terminate in the gray nucleus near the lower part of the floor of the fourth ventricle. This nerve is composed of both sensitive and motor filaments; it supplies the organ of voice and respiration with both motor and sensory fibres; the pharynx, œsophagus, stomach, heart, with motor influence. With these facts before me I came to the conclusion that the traumatism was from the injury back of and superior to the ear; still, thinking it compression from blood clots, I deferred operating, as the patient seemed to be improving. On the night of the sixth after traumatism, to my surprise and regret, he was seized with convulsions; they would come on with great force, and last at least thirty minutes. I advised an operation, stating that it should be done immediately. I was of the opinion that an operation, if it should fail, could not do as much harm as the convulsions; that by removing a button or two I would restore equality as to pressure, relieve the resistance at a given point, which would relieve convulsions for some days; if the pressure was located, which I was pretty sure it would be, the convulsions would be relieved immediately, and consciousness restored.

Having stated these facts to the family, an operation was agreed upon. Everything was gotten ready for such, and two assistants were sent for. On their arrival, one refused to give the anæsthetic, stating that his reasons were that the compression was so intricate, the location so doubtful, that an operation would not be justifiable; also the seeming quietness of the patient led him to the false impression that the convulsions had ceased, so the operation was postponed.

Early the next morning I received a call to hasten to Mr. M., stating that the convulsions had returned and that they were willing for the operation to take place. Everything having been made ready the night before for the operation, he was anæsthetized (ether), placed on the table, and two buttons were taken out where the injury was received.

After dissecting up the scalp and cleansing the skull, I noticed a very fine fracture; the buttons were removed, and upon examination I found a large spiculum of bone penetrating the dura mater; the dura was opened and four ounces of coagulated blood removed; the opening was nicely washed with hot water, drainage tube inserted, the edges of the wound brought in close proximity by means of silkworm gut, sprinkled with iodoform, and dressed with iodoform gauze. He came out from under the ether very nicely, but was very restless. I administered one drachm of bromide of potassium by enema, which acted very nicely. This had to be kept up for several days, as at times he would be almost unruly. From the second day after operation his improvement was gradual, and on the twenty-seventh day after the operation he was dismissed.

Having decided to operate, the procedure and technique at once demand careful consideration. It is in this line of surgery that asepsis must be rigorously insisted upon; be sure of the aseptic surroundings, of the instruments, ligatures, and dressings, of everything that comes into immediate contact with the patient; and, most important of all, be sure of yourself and your assistants. The head is to be shaven—no half-way measure. It is then carefully cleansed, the serum and everything removable to be thoroughly scoured out with soap and water, followed by disinfectants.

The main fissure is to be marked out with an aniline pencil or silver solution, as recommended by Church. With a trephine or drill the scalp is to be transfixed at the exact point decided upon for the entrance of the skull opening, and the bones scored to secure a marking for the operator when the scalp shall be uncovered and the guiding line on the scalp removed. With a wide horseshoe flap embracing the periosteum, the scalp is turned back, the base being upward in relation to the patient's recumbent position to favor subsequent drainage. Bleeding points may be controlled by hæmostatic forceps; the points, previously marked out by drill through the scalp, are now found, and the bony structure carefully examined for evidences of traumatism. You are now ready the trephine, removing as many buttons as necessary; if more than two buttons be removed, advise the use of the drainage tube, wash the wound with hot water, examine the dura mater for injuries or

spicula bone, place in drainage tube, bring the edges of the scalp in position by means of the interrupted suture, sprinkle with iodoform or boric acid, dress with iodoform gauze and borated cotton. By strictly adhering to this technique the operation is made safe from septic germs.

In these days of modern surgery, where wounds can be made surgically clean and caused to heal almost by first intention, it is my opinion that in every case of traumatic injury of the head, where convulsions come on, the patient should have the benefit of the trephine to remove clots or spicula of bone that have been located where there is pressure, for the same object as the abdominal surgeon makes his incision in the abdomen for the purpose of exploration.

I believe that the day is not far hence when this will be done, and when that is so we will see fewer cases of epilepsy from traumatism.

CASE II.—Boy, 14 years old, who, some three years previous received injuries of the head, produced by something falling on and fracturing the parietals. For three weeks after injury he had been suffering from epileptic convulsions; they had become more frequent and more violent; operation was advised and done; the technique the same as reported above. Two buttons were removed at the point of injury. There was considerable pressure from spicula, the dura indurated and hard. The induration was cut out, and edges of dura brought together by the continuous catgut suture; drainage and dressing as recommended. The wound healed nicely. There has been no return of the convulsion, and sufficient time has elapsed to show conclusively that he is entirely relieved.

The two cases illustrate the brilliant possibilities of the surgeon to relieve this class of cases that, if not always fatal, will destroy the beautiful temple of thought and dethrone the ruler of physical man.

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#### GONORRHŒA.

By T. O. SUMMERS, M. A., M. D., F. S. Sc. LOND., WAUKESHA, WISCONSIN.

Of all the diseases within the range of nosology, there is not one about which so much has been written, and so little of practical value expressed to the seeker after utilizable knowl-

edge, as about this *questio vexans et vexata*—Gonorrhœa. I know it is almost as much as a man's professional reputation is worth to approach the discussion of any disease in this bacteriological age without paying his respects to His Bugship who presides over that department of pathology into which he ventures to enter. Indeed, I may *en passant* make bold in this connection to predict that the day seems not far distant when even every physiological process will be traced to some specific bug, which, when caught and mounted in majesty upon the microscope slide, will reveal all the hidden mysteries of structure and of function.

I do not mean to cast any slur upon microscopical work, or to underrate its value to practical medicine, for the best efforts of my life have been directed to histological research, but I feel confident that if they only dared to say so most of the young men of the profession would lay aside the treatises and monographs of the day with a heavy heart and a hungry brain. "They ask for bread and you give them a stone." I shall, therefore, in this short discussion eliminate all but what is the result of my own practical experience of twenty-five years, leaving the "*dress parade*" of bacteriology to the more pretentious works upon this subject.

As I have intimated, there is no disease which taxes more the ingenuity and the patience of a young practitioner, and I may say an old one, too, than gonorrhœa. During my ten years' experience as professor of anatomy, there was scarcely a week passed by that—according to the well known custom of medical students—I did not have a note thrown upon the lecture table asking the question, "What is your treatment for gonorrhœa?" How fully does that question set forth the gross ignorance of the majority of the profession at large upon the subject under discussion.

As if gonorrhœa were the same in all persons. As if gonorrhœa were the same in the same person at different times. As if idiosyncrasy, age, sex, habits of life, surroundings and all the conditions which determine therapeutic agencies were always the same at all times and in all persons. And yet you can not pick up a journal that has not some set formula announced for the cure of gonorrhœa without any reference what-



ever to the existing pathological conditions of the particular case. "What is one man's meat is another man's poison" was never more appropriately applied than when applied to the treatment of gonorrhœa.

At the outset of every case of gonorrhœa the greatest obstacle which is met by the young physician, whose tenure upon his patient he feels is not too strong at best, is a psychical one. The patient first of all demands of his physician the exact time necessary to effect a cure. If told for his encouragement that it can be done in a few days, he will run along very pleasantly perhaps until he thinks the "few days" are up, and then come the clamor and complaints, for the gonorrhœal patient is the most impatient of all patients.

You regret then not having used "weeks" instead of "days" in your prognosis, and the chances are that you will lose your patient and his fee, too, if you have not been wise enough in your generation to demand it in advance, for the gonorrhœa patient always has about him a corps of advisers who know all about gonorrhœa—would "just as soon have it as a bad cold"—"have a remedy that will knock any case of it cold," etc. As Dr. Keyes has said in his admirable treatise on this disease, it is always best to promise nothing definite with regard to the time of cure. Tell the patient plainly and firmly that the man doesn't live who can predict with certainty the duration of the simplest case, that you will give him the benefit of the most approved treatment known to science, and warn him against the wiseacres who, if they could do what they say they are able to do, would pile up wealth in the face of which the Vanderbilts would be paupers, for the man who could cure every case of gonorrhœa with one prescription must indeed be little lower than the angels.

It is best not to *explain* too much—a fault too common with young physicians over-anxious to obtain the confidence of their patients. The popular mind loves mystery—it is that upon which quacks do vegetate, and grow fat withal; so that while we should never cover ourselves with the veil of mystery, in the great majority of cases better results are obtained by keeping the patient in ignorance of the nature of the medicine he is taking, and leaning thus entirely upon the physician for

help out of his trouble, will follow more carefully his advice and be more attentive to his demands. The moment you put a patient upon the basis of a consultant upon his own case your influence and authority over him are gone. Now, then, having established this most important factor in the problem of a gonorrhœa case, the next thing to be noticed is the necessity for promptness and decision in inaugurating your treatment.

So numerous are the therapeutic resources in this disease that they tend to bewilder and confuse the mind, and the restless tendency to change the prescription whenever a remedy does not immediately exhibit positive effect has a bad influence upon the patient, who, looking lugubriously upon his long line of half empty bottles, soon begins to feel that the doctor is just banging away in the dark without any specific plan or purpose of treatment made out for guidance.

This, then, suggests the second important consideration in the treatment of gonorrhœal cases. Knowing that there are three distinct states or conditions of the mucous membrane in this disease, giving rise to three established stages—the stage of incubation, the stage of inflammation and the stage of subsidence, it is evident that the treatment must be altered to meet these varying conditions. It is a common error to write a prescription for a patient, let him go off to use his own injections and “report in a day or two.” In the “*day or two*” how many changes may have occurred that would contraindicate the continuance of the treatment which was adapted to the condition of the case at the time it was observed by the physician—changes which must be met promptly or the case will be indefinitely prolonged.

Too much attention can not be paid to the details of treatment, such as the careful instruction of the patients to urinate before every injection; to use a conical rubber point syringe; to wash the urethra out with hot water before injecting; to draw the meatus—say “opening” to the patient—well and tightly around the nozzle of the syringe, and inject slowly and not with a plunge; never to wrap the penis up in rags or cotton, but use an apron that has two layers closed below, the inner one with a hole for the penis, and all suspended by a tape around the waist; to observe absolute cleanliness—plenty of

soap and water applied three or four times a day to all the surrounding parts, and other minor points, which, though they may seem trivial to the physician, mean a great deal to the patient, and go very far toward insuring success in treatment.

Do not confuse a patient's mind by giving him a number of prescriptions at once, leaving it to his own judgment when to drop the one and use the other—prescribe only for the present condition of the case and proceed *pro re nata*.

And now for the therapeutic agents which from the thousand remedies proposed for the cure of gonorrhœa I have carefully selected as the most prompt and efficacious in their action.

In the first stage of gonorrhœa, when the meatus is pouty and itching, I start the patient off always with a preparation similar to the LaFayette mixture, and I do not think it can be much improved. It is as follows:

℞ Balsami copaibæ  
 Sp. eth. nitrosi  
 Sp. lavandulæ co .....aa ʒss.  
 Liq. potassæ..... ʒj.  
 Muc. acac. q. s. ad..... ʒiv.  
 M.  
 S. Shake well and take one tablespoonful three times a day.

I also direct the patient to carry a small vial of oil of sandal wood and a few lumps of sugar, and every now and then through the day saturate a lump with the oil and then take, until the stomach begins to rebel against it. A good rule to remember always in gonorrhœa, or any other disease for that matter, if the stomach is disturbed by any remedy, abandon or change it. If I can neither use copaiba or sandal wood, as is the case with some idiosyncrasies, I use simply citrate of potassa in twenty or thirty grain doses largely diluted with water.

As an injection in this stage my favorite is a simple solution of nitrate of silver, one-fourth of a grain to the ounce of water, injected every two (2) hours until the discharge is thin and tinged with blood. This, of course, precipitates the case into the second stage, when I use mild astringents and emollients until the rubescence and swelling induced by the nitrate of silver have subsided. The best injection I have ever known

for this stage after the nitrate of silver has been suspended is the following:

℞ Zinci sulphatis.....	gr. xij.
Tinct. opii .....	℥ij.
Tinct. catechu.....	℥iv.
Ext. Pinus Canadensis (Kennedy's white).....	℥ss.
Aq. rosæ q. s. ad .....	℥iv.
M.	
S. Inject three times a day.	

Right here I must stop a moment to speak a word in behalf of these preparations of *Pinus Canadensis*—the dark and the white. I like the dark better for its action, but it is open to the oftentimes very serious objection of discoloring the clothing. Where this may be left out of the case, I always use the red. I have never seen a better and more reliable astringent. Its strength must be regulated by the sensation produced, and this is easily done, as it is perfectly miscible with water. Now, if the disease still “hangs fire” it is well to vary the injection. Indeed, I have noticed that alternating injections act far more satisfactorily, as the mucous membrane very soon becomes tolerant of any local astringent. So that I nearly always use in alternation with the above injection the old red wine injection.

℞ Ac. tannici .....	gr. xx.
Vini rubri.....	℥iv.
M.	
S. Inject three times a day.	

If this should “burn” too much, dilute with rose water until it can be comfortably borne. In this stage also the time-honored prescription of acetate of lead and sulphate of zinc frequently acts like magic. This is an ugly-looking pharmacal prescription, as the salts fall to the bottom as a thick white precipitate, so that the mixture must be “well shaken before taken.”

℞ Plumbi acetatis	
Zinci sulphatis aa.....	gr. viij.
Aq. rosæ .....	℥iv.
M.	
S. Shake well and inject three times a day.	

Besides these there are hundreds of astringent injections recommended, but after a thorough trial of most of them I have found these simple ones already given to be after all the most reliable.

Now when the “running stops” and the patient sees nothing through the day, but on rising in the morning is able to



squeeze out a creamy bead from the mouth of the penis, you will find the most troublesome phase of the disease to treat. So obstinate is this often that I frequently go back to the nitrate of silver injection and convert the whole case into a recent sore, and then treat accordingly. However, unless you have absolute control over your patient it is best not to try this method. The most successful agents in breaking up this last stage of gonorrhœa I have found to be:

1. Bichloride of mercury.

The following is my favorite prescription:

℞ Hydrarg. bichlor.....	gr. ss.
Ext. Pinus Canadens. (Kennedy's white) .....	3 ss.
Aq. rosæ.....	3 iijss.
M.	

S. Inject morning and evening.

If this is too strong, dilute with water till it can be easily borne.

2. Here is another injection for this condition which often acts admirably:

℞ Ext. Pinus Canadens. (white) .....	3 ij.
Glycerine .....	3 iij.
Vini rubri.....	3 ij.
Hydrastin sulph.....	gr. iv.
Aq. dist.....	3 ij.
M.	

S. Inject morning and nights.

3. In this stage I find it always best to use an internal remedy along with the injection, and the best I have found to be:

℞ Potass. brom.....	3 ss.
Sod. bicarb .....	3 ij.
Tinct. Cannabis Indicæ.....	3 iv.
Sps. eth. nitrosi.....	3 iij.
Aq. q. s. ad.....	3 vj.
M.	

S. Tablespoonful on retiring.

If the patient, as is often the case, has an idiosyncrasy contraindicating the above dose of Cannabis Indica, either dilute or omit this ingredient; but the bromide is in this stage a most valuable adjuvant to treatment.

Throughout all treatment it should be ever remembered to preserve absolute cleanliness and to wash the urethra out before injection, as suggested in the first part of this article. As to diet, a patient must, of course, live temperately, eat nothing

difficult of digestion, irritating or fiery substances, as condiments, pickles and the like. Drink no stimulants, or if an habitual drinker, be just as moderate as possible without upsetting the system.

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## Proceedings of Societies.

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### SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Abstract of the proceedings of the Sixth Annual Meeting, held in New Orleans, Louisiana, November 14, 15 and 16, 1893.

#### *First Day—Morning Session.*

The association convened in the assembly room of the Medical Department of Tulane University, and was called to order by the president, Dr. Bedford Brown, of Alexandria, Virginia, at 10 A. M.

Prayer was offered by the Rev. B. M. Palmer, of New Orleans.

An address of welcome was delivered by Dr. Ernest S. Lewis, on behalf of the local profession, which was responded to by President Brown.

Dr. A. B. Miles, of New Orleans, then reported, as chairman, on behalf of the committee of arrangements.

The reading of papers was then proceeded with, and the first paper read was by Dr. Howard A. Kelly, of Baltimore, entitled

#### DIAGNOSIS OF PELVIC INFLAMMATORY DISEASES.

He called attention to certain common sources of error in making diagnoses of pelvic inflammation. An erroneous conclusion is often reached in these cases, both by general practitioner and specialist, by relying for the diagnosis upon such symptoms as dysmenorrhœa, more or less persistent pain in the pelvis, attacks of pain confining the patient to bed, diagnosed as peritonitis, difficult locomotion, cachexia (due to morphia habit), tenderness on pressure over the ovarian region, and extreme tenderness at the vault in a vaginal examination.

Such a group of symptoms frequently characterizes a false or pseudo-pelvieo-peritonitis, in which there is actually no demonstrable lesion of any pelvic organ.

In order to make a diagnosis of true pelvic inflammatory disease the inflamed structures must be examined directly by touch. The various subjective symptoms must be regarded as of secondary importance in reaching a diagnosis.

Even the patient's observation that she has passed a quantity of pus can not be relied upon unless the pus is seen by the physician, as patients often mistake muco-purulent discharges from the uterus for the emptying of an abscess.

Fever, and especially recurrent attacks of fever, are valuable aids in making the diagnosis, but fever is generally absent, even in abscesses when the pus is encapsulated.

The direct examination, the sole test, is made by the vagina, or by the vagina and lower abdominal wall, and the diagnosis of pelvic inflammatory disease is made when a definite hard resisting mass is felt on one or both sides of the cervix.

Through an empty rectum these masses are still more distinctly outlined. When the disease is not quite so evident a bimanual examination through the rectum and abdomen should be made, carrying the index finger of the lower hand above the rectal pouch behind the uterus and laterally out on to the broad ligaments. The most minutely accurate examination of the pelvic organs which can possibly be made is called for when the ovaries and tubes are enclosed in delicate bands of adhesions which allow considerable mobility to structures not enlarged. This is accomplished by the trimanual method by vagina, rectum and abdomen simultaneously, under anæsthesia.

Dr. Kelly exhibited his corrugated tenaculum devised to facilitate this examination. The point of the tenaculum is caught in the anterior lip of the cervix, which is drawn down to the hymen, and the tenaculum is held between the third and fourth fingers and the ball of the thumb, while the index finger is introduced into the rectum, and, aided by the hand making pressure above, giving a plane of resistance, is enabled to examine minutely the posterior surface of the uterus and all surfaces of the ovaries and the tubes, detecting the slightest adhesions binding these organs down. The examination under anæsthesia is a matter of the utmost importance and not sufficiently appreciated. Without anæsthesia the most accurate examinations are impossible. It is therefore a *sine qua non* to the diagnostician.

Dr. C. Kollock, of Cheraw, S. C., followed with a paper entitled

#### THE CONSERVATIVE TREATMENT OF PYOSALPINX.

He said in cases of pyosalpinx, much caution and a very rigid examination are called for to determine the cause of the presence of pus, the length of time it has been there, and the condition of the walls of the tube in which it is found.

Attention should also be given to the peritoneum and ovaries, but above all there should be the strictest inspection of the endometrium, a disordered condition of which contributes much to the production and continuance of pus in the tubes.

Within a year or two changes have been made in the treatment of pyosalpinx, and conservatism now enters largely into its management. Men of high position in the profession are more decidedly agreed that a moral obligation rests upon us to relieve patients without the sacrifice of any organ, or part of one, when this is compatible with safety. Recently Polk, Pryor, Boldt and Dudley had reported to the New York Obstetrical Society a number of cases of pyosalpinx treated by the conservative method now in vogue. This treatment, when faithfully carried out by curettement and aseptic divulsion, has not only been successful in saving the tube and ovary on the non-affected side, but in several instances the diseased tube was entirely relieved of the presence of pus. That many cases of pyosalpinx have been accurately diagnosed and radically cured without the mutilation of any part of the sexual organs is well authenticated. Dr. Kollock's experience, while limited compared to that of others, has been sufficient to convince him that the conservative system of practice is bringing us to that period when the mutilation of women, once supposed to be necessary, should cease.

Dr. Kollock then reported a few cases of pyosalpinx which had fallen into his hands, the happy termination of which had placed him under obligations to the pioneers in the conservative treatment. All but one of four cases were relieved entirely without resorting to cœliotomy.

Dr. George J. Engelmann, of St. Louis, emphasized the importance of administering an anæsthetic in examining patients with pelvic inflammatory disease before serious operative procedures are entered upon. It was not alone the anæsthetic, however, but the practised touch.

Dr. Joseph Price, of Philadelphia, alluded to dropsical tubes as being a group of cases that puzzled the practitioner from a diagnostic point of view, and later surgically. Angry pus cases, while acute in their early history, were simply cases to be dealt with surgically. The attacks of pain were numerous, and fixation and tenderness characteristic symptoms. Everything in the pelvis was board-like, and when the surgeon got into the abdomen from above, it was difficult to distinguish the uterus from the appendages and *vice versa*. These were trying cases to deal with.

Dr. John D. S. Davis, of Birmingham, Ala., said he was



n favor of evacuating pus wherever it was found in the body. There were, however, some cases in which pus could be removed without sacrificing the ovaries or tubes. As to the use of an anæsthetic, he considers it absolutely essential in the examination of doubtful cases, but where the diagnosis is plain it is not necessary.

Dr. R. B. Maury, of Memphis, said the great difficulty in the class of cases referred to by Dr. Kollock, in which there was pelvic inflammation associated with muco-purulent discharges from the uterine cavity, was to decide whether there is a pyosalpinx. We have what is denominated endometritis, associated with it normal discharges and exudation in the pelvis, but Dr. Maury says he is at a loss sometimes with the most careful diagnostic measures, whether under ether or without it, to form in his own mind an accurate picture of what the precise state of things is in the pelvis. The rule he has laid down in the treatment of such cases is, if they are acute, non-puerperal or puerperal, that the woman is entitled to a certain period of rest, and other measures non-surgical, before deciding upon a radical operation.

Dr. W. E. B. Davis, of Birmingham, Ala., believes that, in the examination of patients, it is exceedingly difficult in some cases to make an accurate diagnosis without an anæsthetic. However, there were women who could stand the examination well without it.

In regard to endometritis, by judicious and careful curettement he believes many patients can be saved the necessity of an abdominal section. The trouble is that practitioners often denounce one procedure and uphold another without outlining indications for a certain position. It is very important to cure the endometritis before it spreads to the tubes, etc.

Dr. R. M. Cunningham, of Pratt City, Ala., was inclined to look upon endometritis in the vast majority of cases of disease of the appendages as the *fons et origo* of the whole affair, and he believes that the operation which has been systematized and popularized by Dr. Polk is a safe, conservative and reliable procedure. Furthermore, in the hands of the general practitioner it would relieve many of those cases that go to the laparotomists.

Dr. Bedford Brown, of Alexandria, Va., said the mobility of the uterus and its fixations were questions of great importance in diagnosing pelvic inflammatory disease.

Dr. L. S. McMurtry, of Louisville, Ky., delivered a memorial address on Dr. Ephraim McDowell.

He said it would seem almost a work of supererogation to submit an elaborate biographical sketch of McDowell after

the very complete accounts of his life and labor which have been contributed to medical literature by the late Professor Samuel D. Gross and the late Dr. John D. Jackson, yet he presumed that no one would for a moment question the good taste and wisdom of perpetuating in the volumes of transactions of the association the names and deeds of eminent Southern surgeons who had done so much to lay the foundation in America and the whole world for the present splendid system of surgery and gynecology. This galaxy of illustrious names would be incomplete without that of McDowell's, the father of ovariectomy and the pioneer of abdominal surgery, which in modern times has grown to such grand proportions.

In the year 1852, twenty-two years after the death of McDowell, Professor Gross, in his celebrated report on Kentucky surgery to the Kentucky State Medical Society, presented a sketch of the life of this eminent surgeon, with a detailed account of his original surgical work. This sketch was subsequently incorporated in Gross' American Medical Biography, published in 1861.

After giving a sketch of his life, Dr. McMurtry then referred to McDowell's first ovariectomy on Mrs. Crawford, and noted some points with reference to his operative technique. The operation in this case was made without an anæsthetic.

Incision was made to the left of the median line, about three inches external to the rectus muscle, and was nine inches in length. After opening the peritoneum he first tied the pedicle with a strong ligature, and then cut open the tumor and removed its contents. He then divided the pedicle, it having been previously tied, and removed the sac. As soon as the incision was made into the abdomen, he states the intestines rushed out upon the table, and were not replaced until the operation was completed, which, he adds, "occupied twenty-five minutes." He then turned the patient upon the left side to allow all fluids to escape. He closed the incision with interrupted sutures and brought out the ligature attached to the pedicle at the lower angle of the wound.

In reporting his cases he omits mention of the material composing the ligature, and Dr. McMurtry had been informed by a friend of McDowell, now dead, who was a great deal about McDowell's office in his boyhood, that the ligatures used were made of shoemakers' thread and waxed thoroughly before being used. Adhesive strips and bandages completed the dressing, and in the author's language, he prescribed "a strict observation of the antiphlogistic regimen." The special features of the technique are: (1) The incision was made through

the muscular layer of the abdominal wall three inches external to the rectus muscle. (2) The cyst was not evacuated until after the pedicle was tied. (3) An effort was made to cleanse the peritoneum of fluids. (4) Drainage was sought, as well as escape of ligatures, by bringing the ligatures out of the lower angle of the incision. (5) The operation occupied only twenty-five minutes, expedition being more the result, doubtless, of the want of an anæsthetic than otherwise.

In his report of his second case, he used this language: "I laid her side open." In his third case, however, he adopted the median incision, saying in his report of this case: "I changed my place of opening in the linea alba." In all his cases he ligatured the pedicle before separating the adhesions or tapping the tumor. In his third case he mentions that the ligatures could not be released for five weeks, at the end of which time the cord was taken away.

### *First Day—Afternoon Session.*

#### THE INCISION IN ABDOMINAL SECTION—HOW TO CLOSE IT— POST-OPERATIVE COMPLICATIONS ABOUT IT.

Dr. Joseph Price, of Philadelphia, read a paper on this subject. He said the question that most vitally concerned surgical and gynecological work was, How can the mortality be reduced? Surgical judgment and surgical fingers repeatedly determine the issue of life or death.

*The Incision.*—We have nothing from which we can even approximately determine to what extent the length of the incision influences the mortality. The statistics of comparative results would not prove satisfactory, for the reason of the entry of so many other elements, adhesions, their character, extent and locality. That the incision exercises a greater influence than is generally recognized or admitted, he entertained little doubt. As to length, no rule of mathematical certainty could be laid down. In his own experience he finds the balance of both convenience and safety to lie with the short incision. The short incision narrows the limits of hæmorrhage. It is safe to begin with a small incision, and where the size and character of the tumor or complications present require a larger one, it can easily be made. Very much abdominal work can be done through an opening admitting only two fingers. The reliance of the abdominal surgeon must be largely in educated fingers. In the majority of cases an operation can be done through a small incision without the operator or spectators seeing viscera. Universally adherent, irreducible or solid tumors require a long incision for delivery, and for dealing with com-

plications that can only be dealt with through a long incision, these beneath and on the sides of tumors. In the majority of cases, to so enlarge the opening as to obtain a view of the parts, we augment the risk of ventral hernia and provoke tedious convalescence.

The importance of a perfect closure of the incision has only recently received that attention it deserves. The effort should be to approximate as nearly as possible normal conditions, anticipating and dealing with all existing or possible complications with scrupulous minuteness and care, thus guarding against those accidents which are too frequent. He would not pretend to suggest uniform procedures to be carried out in all cases, as each operator has his own way and does his own work best that way, and it would not be possible for him to apply the methods of others safely and successfully without special training. He is satisfied that the exposure and manipulation of the incision, as well as the peritoneum, is harmful. Incisions bathed in pus and filth and freely manipulated, often refuse to unite. Suppurating wounds are largely due to careless closure, or to tight sutures, including too much tissue. Tight suturing is too common, and has destroyed life in many feeble subjects. Suppuration, due to tight suturing and stitch-hole abscesses, in all sections where they do not result fatally, prolong convalescence. Cases were cited in point.

Through-and-through suturing including all structures more of the central structure than skin or peritoneum, with either silkworm gut or pure silk give and continue to give the most satisfactory results. Silkworm gut seems to be the favorite material at present, as it possesses all the natural and essential qualities of a suture, is small, strong and non-irritating—the three cardinal virtues of all good suturing material. Terracing sutures has nothing to recommend it; on the other hand, Dr. Price believes it prolongs an operation. Retraction of skin and peritoneum by the introduction of silkworm sutures gives inclusion to more central structures and the least possible tension on skin and peritoneum. Keith, Tait and Bantock all use a fine straight needle, and their work has been about perfect. The use of large, curved cutting needles is harmful; their use primarily favors hæmorrhage and secondarily stitch-hole abscesses.

Dr. Kelly thinks that long incisions have little or nothing to do with mortality except in an indirect way. Where there are many adhesions a long incision is necessary. Handling of the viscera in pre-antiseptic days increased the chances of suppuration, and consequently of peritonitis and death. The chances of infection he believes are greater with a long inci-



sion. Hernia comes from improper closure of the abdominal wall, or the use of the drainage tube, weakening of the abdominal wall at one of its points.

Dr. L. S. McMurtry, of Louisville, demonstrated his method of suturing on the board. He brings peritoneum to peritoneum, muscular structure to muscular structure, fascia to fascia, skin to skin, and says the least quantity of interesting material that we have between the tissues that are to be brought together the better. He disagrees with Dr. Kelly that the drainage tube is the cause of hernia after closing the incision.

Dr. R. B. Maury, of Memphis, favored the silkworm gut suture. His experience covers nearly 300 sections, and he has simply used the through-and-through suture. He has had almost no abscesses and the fewest possible number of hernias, and which, he says, can be counted on the fingers of one hand.

Dr. T. J. Crofford, of Memphis, said it was considered that all hernias resulting from abdominal section were due to failure to get union between the opening layers of transversalis fascia. He used a long curved needle instead of a straight one. With it he can put in stitches in one-third of the time he can with the ordinary needle. He has used it in upwards of 200 sections, and has not had a case of hernia to follow one of them. He has also had the fewest number of stitch abscesses.

Dr. Price in closing said there was an intense amount of theory about the matter of long and short incisions, and there was a tendency on the part of some to brush aside pre-antiseptic work. Notwithstanding this, however, some of the old back numbers, or hay-seeds, so-called, had as good results in their day as are obtained in some of our hospitals to-day. He urged great caution in the terracing method of suturing.

IS OPERATION DEMANDED IN ALL CASES OF APPENDICITIS? THE  
BEST TIME TO OPERATE.

This paper was read by Dr. A. Cartledge, of Louisville, Ky. He said that inflammatory conditions of the appendix are essentially intra-peritoneal lesions. Modern surgeons have an abiding faith in the surgical maxim that whenever pus is believed to be present in tissues or organs of the body it should be removed; hence the new pathology of a very old and frequently fatal malady inspired surgeons to attempt some radical means of relief. Perfection in technique can only come from individual experience and a knowledge of the work of others.

The pathology of a disease is the only true key note to its rational treatment. Probably the best classification of appendicitis is catarrhal (simple); ulcerative (from tuberculosis

from foreign bodies); perforating (from ulcerative perforation from strangulation, the result of twisting). This classification deals strictly with the changes occurring in the appendix, and should be considered apart from the peritoneal and other conditions which may ensue and cause well-marked variations in the clinical course of the disease. If the walls of the appendix give way in a mass of fibrous adhesions, the result of long-continued irritation, the pus which forms is rather securely encapsulated, and may be days, weeks, even years finding an outlet. In fact, as is often the case, if the bacillus coli communis predominates and a few staphylococci are present, it may remain encapsulated, unless it receives a new impetus of irritation. Cases were reported illustrating this point. Cases were also reported illustrating the part played by injury as an exciting cause in appendicitis, and the belief was expressed that a chronic form of unrecognized appendicitis existed prior to such injury.

We know more about the pathology of ulcerative or suppurative appendicitis than we do of the catarrhal form, because the cases not operated upon which recover are mostly called catarrhal. These are cases which progress with little pain, with very little fever, 101 F. as a maximum, and have a tumor which subsides. These cases are the pride of the poultice and the opium practitioner. Ulcerative appendicitis must be either tuberculous or traumatic, the trauma consisting of foreign bodies and enteroliths, usually the latter. The tuberculous would only give rise to acute symptoms as the result of cicatrization and stenosis, with distal distention, or secondary inflammation with pus organisms. Either of these results favor perforation. This is essentially the chronic variety, but will eventually lead to perforation probably in the ways indicated.

When physicians come to view inflammations of the vermiform appendix in their proper light, the author said the prognosis will assume a very different shade. We should consider any appendix once so affected as to deserve the name of appendicitis, whether from tubercle or trauma, a lastingly diseased structure, and the fancied cures are quiescent states, the results of very easily recognized conditions. If we could trace our so-called first attack cases of appendicitis through subsequent ones, we would say the progress, not only as to health and comfort, but to life, is bad, very bad. A man has the trouble three, four or five times, apparently recovers, all counted as cures by different physicians. Finally he dies in an attack; the death is counted but once and sometimes not then; for if, as is often the case, death results from the rupture of an

unrecognized appendical abscess, or from diffuse peritonitis after perforation, the chances are that the cause is never suspected, and death is recorded as occurring from peritonitis. Every case of appendicitis, not barred by surgical limitation, should be operated upon. The best time, provided the symptoms are not too urgent, is after the bowels have been thoroughly moved.

Dr. Joseph Price agreed with the author of the paper that there was but one treatment for appendicitis—namely, removal of the appendix. He considers it a murderous disease, to be classed with extra-uterine pregnancy. Both demanded prompt surgical treatment when first discovered. He recommends in acute cases of appendicitis without pus, removal of the appendix and freeing of the inflammatory adhesions.

Dr. G. W. Long, of Richmond, opposed operation in every case of appendicitis. Autopsies had shown that one-third of the human race had had at some period of their lives this disease. That being true, and considering the small per cent. of deaths, it naturally follows that appendicitis does not always kill, even if it is not operated on. In the catarrhal form, he thinks there is no reason for operating. In the perforative form we should operate. In the perforative form without adhesions we should also operate as soon as we make a diagnosis.

Dr. William T. Briggs, of Nashville, had been operating on every case of appendicitis that came into his hands where the diagnosis was clearly established, and he has had no occasion to regret it. He has operated in cases where there were perforative symptoms, and in other where there were none; in some where there were and in others where there were not suppuration, and still others where there was and where there was not sloughing.

Dr. C. Collock, of Cheraw, S. C., had seen a great many cases of appendicitis. He recommends saline treatment in the first attack, but if there is recurrence he invariably operates and has never lost a case.

Dr. W. E. B. Davis, of Birmingham, Ala., had never operated on one of these cases without advising a secondary operation for removal of the appendix, telling the patient that the disease would recur. He thought, however, there were many cases that got well without operation, but it was a difficult matter to tell in what case we should not operate.

Dr. Hunter McGuire, of Richmond, said he had many a time operated too late, but never in his life had he operated too soon. If, after free and full purgation with salts, administered by the mouth and rectum, the symptoms are not re-

lieved, he thinks the time for operation has come and does not hesitate to operate. He had never known the mere operation in the hands of skilful surgeons to kill or add to the danger of the patient's life. Appendicitis kills, and it is put down to inflammation of the bowels, peritonitis, or something else.

Dr. Louis McLane Tiffany, of Baltimore, said that the cases that require consultation should be divided into those that are going to live without bursting and those that will rupture inside of three days, and then next to the question of making the diagnosis was to get the consent of the family physician. The cases that are dangerous die within seventy-two hours, before the family physician is able to make a diagnosis.

Dr. Willis F. Westmoreland, of Atlanta, favored early operative interference. He had never been called in sufficiently early by the general practitioner to operate, consequently the patients died promptly. It was necessary to educate the general practitioner to send cases to the surgeon for operation earlier.

Dr. W. B. Rogers, of Memphis, had seen cases of catarrhal, ulcerative and generous appendicitis, but had never been able to make a diagnosis until he got inside. The symptoms of the disease were the same as those of peritonitis, localized at the site of the appendix. In the cases he had operated on he was satisfied that no medicine would have effected a cure.

Dr. Cunningham agreed with Dr. McGuire that an operation should be done in case medical treatment failed to afford relief.

Dr. Riggs, of Birmingham, advocates operation in the recurrent form of the disease during the interval of attacks.

Dr. James A. Goggans, of Alexander City, Ala., had operated early on seven cases; all recovered.

### *Second Day—Morning Session.*

Dr. Louis McLane Tiffany, of Baltimore, read a paper entitled

#### INTRA-CRANIAL NEURECTOMY, AND REMOVAL OF THE GASSERIAN GANGLION FOR INTRACTABLE NEURALGIA, WITH REPORT OF CASES.

Within the past few years intra-cranial excision of portions of the fifth nerve, together with removal more or less complete of the Gasserian ganglion, has been done for the cure of intractable trigeminal neuralgia. The credit of first doing such an operation rests with Rose, of London, after whom is to be mentioned Novaro, Horsley, Andrews and others. Dr. Tif-



fany then gave an account of Hartley's method, which appears in the *Annals of Surgery* for May, 1893.

It has been Dr. Tiffany's fortune to operate four times for excision of intra-cranial portions of the fifth nerve. In each case the reason for operation was trigeminal neuralgia not due to disease of the brain. Hartley's method was followed. All cases recovered from the operation and were relieved of neuralgia, it is to be hoped, permanently.

The operations have been long, but recovery in each instance has been rapid and complete. In all cases the wounds healed at once, except in the fourth case, where the patient scratched the recent wound and infected it.

It is worthy of note, that in the case of the patient upon whom operation was performed fourteen months ago, there is less anæsthesia and more perverted sensation than in the other cases. Sensation seems to have returned somewhat, and it is interesting to speculate as to whether sensation will ever completely return, and if so, by what route. Preservation of the sense of taste after division of the second and third divisions is to be noted. That the power to recognize heat and cold exists in a region rendered devoid of ordinary sensation by nerve section is of much interest and recalls an observation made sometime since that a conjunctiva insensitive from the local application of cocaine still appreciates the difference between heat and cold.

When dividing the third division of the nerve in case 4, Dr. Tiffany believes that he isolated and recognized the motor branch before dividing it. Not having provided himself with a sufficiently long and fine electrode he could not prove the accuracy of his opinion by electric stimulation, and therefore divided everything. By leaving intact the motor branch the patient would not have food collect in the cheek of the paralyzed side, and in future operations an effort should be made toward this end.

#### THE VAGINAL ROUTE AS COMPARED WITH THE ABDOMINAL FOR THE REMOVAL OF PELVIC VISCERA.

By DR. GEORGE J. ENGELMANN, of St. Louis, Mo.

Dr. Engelmann called attention to the advantages offered by the vaginal route for many of the operations, and especially some of the more dangerous now practiced by means of abdominal section for the removal of the uterus and appendages, and especially in suppurative cases with multiple pus centres. It was vaginal hysterectomy for malignant disease of the uterus which first paved the way to the more extended use of the vaginal route for such operations. He pays a fitting

tribute to American surgery when he said that this, like other of the great operations of recent times, emanated from a Southern surgeon. In New Orleans, in 1846, Dr. Dubourg fully described this operation which he had repeatedly practiced with success since 1829, but it was again forgotten until revived within the last decade, and vaginal hysterectomy for malignant disease of the uterus is now everywhere an accepted operation, which is rendered especially safe and rapid by the *force* pressure method of Péan, and it was the French surgeon who extended the field to the removal of other contents of the pelvis by the vaginal route, resorting to the piecemeal removal, the *morcellement*, for the extirpation of masses too large to be delivered in their entirety through the vaginal opening. The leaders in this new departure are Pean and Sigond, of Paris, Doyen, of Reims, and Jacobs, of Brussels, and followed for the present by the French school only. In Germany and England these operations are practiced but little if at all, and in this country the vaginal route is limited to the removal of the uterus, vaginal hysterectomy for malignant disease and perhaps for prolapse or inversion.

Isolated cases of removal of prolapsed ovaries resting on the vagina or small and conveniently situated ovarian cysts through the vaginal opening are now and then performed everywhere, but this is a very different matter. The surgeons who are leading in this field vary somewhat in method and in the extent to which they apply it, but the vaginal route now serves them (1) for hysterectomies for the removal of malignantly diseased uteri, and moderately enlarged uteri, for hysterectomy by *morcellement*, for uterine tumors which do not extend above the navel. (2) For the bilateral removal of appendages with diseased uteri. (3) For the treatment of pelvic suppuration of all kinds. (4) Dr. Jacobs even prefers the vaginal method for certain cases in which the appendages of one side only are to be removed. Pean limits hysterectomy by *morcellement* to benign growths and to all cases of pelvic suppuration treated to-day by laparotomy; whilst Sigond still prefers laparotomy when operation is indicated in unilateral cases, above all in unilateral salpingo-ovaritis when non-suppurative. The indication given by Terrier, and endorsed by Jacobs, is *first* the resort to the vaginal route for cases in which suppurative pelvic peritonitis has returned if laparotomy has already been practiced; *secondly*, suppurative pelvic peritonitis with fixation of the uterus and multiple pus sacs, whilst laparotomy may be resorted to in enucleable non-suppurative salpingo-ovaritis.

The advantages of the vaginal route are the rarity, if not absence, of shock in cases in which we would have to treat it

if the abdominal method were resorted to; rapidity of operation by reason of the *forcé* pressure method and the total absence of ligature or suture, nearness of the parts to the finger, and in aggravated pus cases guarding of the abdominal cavity from the pelvis proper or the field of operation by the adhesions and inflammatory products which form a perfect barrier. It seems the natural route for the reaching of parts below the pelvic brim. There is after operation perfect drainage established by the forceps and the dressing per vaginam so that there is no possible stagnation. Recovery appears to be more rapid and more satisfactory than by the abdominal method, the forceps being removed in forty-eight hours, the patient sitting up on the fifth or sixth day, and moving about between the tenth and fourteenth when cicatrization is completed.

#### TREPHINING AS A CURE FOR TRAUMATIC EPILEPSY.

By DR. JOHN T. CHAPMAN, of Bessemer, Ala.

He operated on a boy, who, some years previously, had received an injury of the head by a blow, fracturing the parietals. Three weeks after the injury he began to have epileptic convulsions. At the time Dr. Chapman saw the patient, the convulsions had become more frequent, and with greater force. Two buttons of bone were removed at the seat of the injury; there was considerable pressure from depressed bone, the membranes were hard and indurated. The indurations were cut out and edges of dura brought together by continuous suture. The wound healed by first intention. For two months after the operation, the patient continued to have convulsive seizures, but they gradually grew less until they ceased. The operation was done four and a half years ago. The patient is now 18 years old, weighs 170 pounds, and works in a foundry. He believes the doctrine that depressed fractures of the skull without symptoms, require no operative interference, is in a measure responsible for many of the unfortunate sequelæ of head injuries.

#### *Second Day—Afternoon Session.*

Dr. Kollock, First Vice President, took the chair and President Brown delivered his annual address. He selected for his subject

#### THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION— ITS ORIGIN, OBJECTS AND AIMS.

He said six years ago a small band of earnest, brave and determined Southern surgeons assembled in the city of Birmingham, Ala., with Dr. Haggard as president, amidst doubts,

anxieties and misgivings for the future, to found and organize this association, and in this effort to build up an organization that would meet the advanced requirements of the times, and that should rank in point of talent, efficiency and high-toned character with the other great institutions of the kind, in this and other countries. But notwithstanding the stupendous difficulties encountered, the vast labor expended and the many obstacles in our path, the association stands to-day a monument of energy, enterprise and indomitable will power. Dr. Brown then traced the growth of the association and referred to its work.

Dr. B. E. Hadra, of Galveston, Texas, read a paper, entitled

SOME REMARKS ON THE SURGICAL TREATMENT OF EPILEPSY.

He thinks that modern researches promise to divest even the so-called genuine epilepsy of its mysterious functional character, and to make it consequently more accessible to surgical interference. Among the points he would mention as having to be cleared up is the deficiency in the knowledge of the great number of brain centres that must exist. As an instance he mentions the unquestionable fact that very often the stomach or the intestines give the initial symptoms, but because we do not know yet these centres, and because the signals are very abstruse, it may easily happen that another group of muscles, which only secondarily become excited, is charged with giving the signal. The next point is to find the real seat of the primary morbid changes in the brain, which is not necessarily the focus belonging to the initial signal. Topographical and electrical localization map out only the latter. He insists that the induced current used in a different way will be all we may desire for such a purpose. It must be applied over a large area of the exposed cortex until a spot is met from where a certain group of muscles not only can be made to contract, but from where a regular epileptic fit can be elicited. This spot must be the locality of the morbid substratum whether it coincides with the physiological focus of the muscles giving the signal or not, consequently this spot must be removed.

He concludes his paper with the proposition to have uniform blanks for operations on the brain, and to have the questions filled by a critical friend during the operation in order to avoid neglect and to prevent post-operative imagination from playing its obliging part in the adjustment of the historical data.



Dr. John D. S. Davis, of Birmingham, Ala., read a paper on

#### THE MANAGEMENT OF THE EPICYSTIC FISTULA.

He said the epicystic surgical fistula is the title given to a supra-pubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications. It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations and imitates nature in the restoration of its own continuity as the pathological changes within the bladder subside.

Permanent after-drainage in all intra-vesical operations can not be necessary, but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine becomes normal and passes per urethram unobstructed; and until this end is obtained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contraindicated, the epicystic surgical fistula is clearly indicated and essentially necessary.

Dr. Hunter McGuire, of Richmond, reported a series of cases of tuberculosis of the bladder.

Dr. William T. Briggs, of Nashville, followed with a paper entitled

#### PERSONAL EXPERIENCE IN THE OPERATIVE TREATMENT OF STONE IN THE BLADDER.

He said living in the midst of the stone region, and in a city whose celebrity as a surgical centre has been long established, it has been his fortune to have met with an unusually large number of cases of vesical calculi. He had had 284 cases of stone under observation during the past forty-two years. The Southern States had furnished the greater number of the cases; a few had come from Western States, Tennessee, Kentucky and Alabama have supplied the largest number, but Georgia, Florida, Texas, Arkansas, North Carolina, Virginia, Missouri and Illinois have contributed cases.

Two hundred and seventy-two of the number were males, twelve females. One hundred and fifty-three were children,

or youths under twenty years of age; one hundred and thirty-one were adults varying in age from twenty-one to eighty.

In operations for stone he had not restricted himself to any single method. He had done all of the operations, both cutting and crushing, and he considers it very fortunate that surgery has so many resources for the relief of this distressing and painful malady. The success of every method of operating largely depends on the preparatory treatment of the patient. The pre-eminent success of Dudley, Mott and others was doubtless due to the judicious treatment employed in the preparation of the subjects for operation, and Dr. Briggs is sure that his own success has been greatly enhanced by a strict observance of the preparatory treatment.

In conclusion, Dr. Briggs said his experience in the surgical treatment of stone in the bladder would sustain the following propositions:

1. No single method of operation is adapted to all cases.
2. Thorough preparatory treatment is essential to success.
3. Litholopaxy is *the* operation when the patient is an adult with a capacious and tolerant urethra, with a bladder free from severe chronic cystitis and with a small or medium sized stone, or if large, of soft consistence.
4. The supra-pubic is the best operation for large and hard calculi.
5. The medio-bilateral should be chosen in all other conditions because it is the easiest, safest and best.

#### HYPERTROPHY OF THE OMENTUM IN HERNIA, WITH SPECIMEN.

Dr. George A. Baxter, of Chattanooga, read a paper with this caption, and presented a specimen (congenital) from a negro 34 years of age which had existed until early manhood, about the size of a goose egg. It was directly increased somewhat by working in a rolling mill 13 years ago, but has had a constant growth since that time until it reached one-half or two-thirds the way to knees, and became an unendurable nuisance. It was therefore removed, closure being made at the same time.

Dr. Willis F. Westmoreland, of Atlanta, read a paper on the

#### TREATMENT OF GUNSHOT WOUNDS.

The first of this class of injuries that he was called upon to treat was shortly after he had graduated, and it thoroughly convinced him of the fallacy of probing. He never uses a probe in a gunshot wound except as it may become necessary in the progress of a formal antiseptic operation. The probing rarely does any good beyond satisfying a morbid curiosity. Even if the wound is not infected by the probe itself it allows

the entrance of air. It destroys nature's occlusive blood-clot, and in this way prevents prompt union.

#### WYETH'S BLOODLESS METHOD IN AMPUTATION AT THE HIP.

By Dr. F. W. PARHAM, of New Orleans.

Dr. Parham prefaced his own paper by reading some extracts from a paper by Dr. John A. Wyeth, read before the last meeting of the New York State Medical Association. He made use also of the statistics kindly furnished him by Dr. Wyeth. These statistics were as follows: Sarcoma, 17 cases, 2 deaths, 11.76 per cent.; inflammatory bone disease, 18 cases, 3 deaths, 16.6 per cent.; violence, 4 cases, 4 deaths, 100 per cent.; nerve injury, 1 case, no death. Total for disease, 36 cases, 5 deaths, 13.88 per cent. For injury, 4 cases, 4 deaths, 100 per cent. For both disease and injury, 40 cases, 9 deaths, or a total of 22.5 per cent. In this list is one case now published for the first time. Boy, aged 3, sarcoma of thigh, recurrent, amputated by Wyeth's method by Dr. Parham, October 5, 1893, discharged cured October 24, 1893. These statistics show a mortality reduction for civil practice of at least one-half. Ashhurst's statistics gave 40.2 per cent. for disease, 82.4 per cent. for injury, or a total of 64.1 per cent. Leming gives gunshot wounds 98 per cent., disease 42 per cent.

Dr. Parham referred to the various methods proposed for controlling hæmorrhage at the hip, and spoke of the various modifications of the Wyeth method. He specially urged that the outer pin should be placed higher, so that the disarticulation might be done before the tube was removed. He favored the suggestion of Thomas that in placing the pins the tube should be put around first at the proper place, and that then the pins should be put in at the lower border of the tube. He believed that the bone should be disarticulated entirely without sawing. In conclusion, the reader remarked: "I am inclined to agree with Murdoch that the method of Wyeth is the best yet devised."

#### LAPAROTOMY IN GENERAL SURGERY.—REPORT OF TWENTY CASES.

This paper was read by Dr. W. B. Rogers, of Memphis, Tenn.

Dr. J. McFadden Gaston, of Atlanta, Ga., read a paper entitled

#### OPERATIVE PROCEDURES FOR CARCINOMATOUS TUMORS OF THE BREAST.

He said a point of great moment, as to the extent of operative procedure, pertains to the leaving of any portion of the

mammary gland, when only partially implicated, in the carcinomatous growth. The esthetic element should never enter into the decision of such a vital question as the arrest of carcinoma, and whenever a breast is the seat of a malignant tumor, whether wholly or partially involved, there should be no hesitation about removing the entire glandular structure. If a part of the mammary gland only seems to be involved, and it is evident the knife can be carried outside of the neoplasm into the apparently sound tissues of the breast, there is every reason to believe that if any portion of the gland is left it may become the seat of disease, and that recurrence will most likely follow the operation. On the other hand, an entire ablation offers better prospects of success.

The relative advantages of the knife and cauteries in the management of carcinoma depends very much upon the progress of the disease. In the incipiency of the local trouble, there can be no doubt in regard to the excision being preferable to cauterization, but, after full development of a tumor with a tendency to degeneration and breaking down of its structure, the resort to escharotics has its advantages in extending to the remote ramifications of the disease. It is a prevalent impression that certain caustic applications attack diseased structure without affecting the sound tissues, and that the so-called roots of a cancer are thus destroyed. There seems to be some just foundation for this belief in regard to applications of arsenic, but the destructive effect of caustic potash in the form of Vienna paste extends to every vital structure with which it comes in contact, and the same holds in reference to the plaster of sulphuric acid and charcoal as an escharotic.

Dr. Gaston said the treatment of carcinomatous tumors of the breast with caustics has been tested fully by Bougard, of Belgium. His paste contains chloride of zinc, arsenic, cinabar and corrosive sublimate. Of 160 cases, 62, or nearly 40 per cent., were free from recurrences three years after treatment.

#### THE DIAGNOSIS OF SOME ABDOMINAL TUMORS SUPPOSED TO BE OVARIAN.

By DR. JAMES A. GOGGANS, of Alexander City, Ala.

Dr. Goggans said the first requisite of the abdominal or pelvic surgeon is to acquire the ability to make a diagnosis. Text-books led one to believe that this was quite an easy thing to do, but his experience had convinced him to the contrary. He then reported a few cases which had come under his observation which served to illustrate the fact that the diagnosis



of many cases is often difficult, and in some cases quite impossible.

Dr. John T. Wilson, of Sherman, Texas, read a paper entitled

DOES GONORRHOEA IN THE FEMALE INVARIABLY PREVENT  
CONCEPTION?

He said it has long been known that gonorrhœa in the female was sometimes attended with complications that proved troublesome and of serious import. Authors had for many years been describing endometritis, metritis, inflammations of the tubes, ovaries and peritoneum produced by an ascending specific vaginitis, these structures being invaded by the poison slowly creeping up through the cervix, involving first the mucous membranes in its tract and extending by continuity of structure to the deeper tissues. The more serious results, however, were not appreciated nor so well understood until within recent years when laparotomy became so common an operation, and the pathology of the more important sequelæ were studied from the specimens themselves. According to the experience of our best authorities it is so difficult to positively differentiate between gonorrhœal and severe simple vaginitis without a clear and authentic history, it being attended with the same symptoms and the properties of also infecting the male, that it is not altogether an easy task to say when ovarian, tubal and uterine troubles, even with the presence of the Neisser gonococcus, have a specific origin, especially as simple vaginitis will sometimes produce them all. Dr. Wilson had observed quite a number of women who were the victims of gonorrhœal infection, many of them innocently so, having contracted it from their husbands and believed it to be an ordinary leucorrhœa; many of those whose history he was enabled to follow afterward bore children for many years, were apparently healthy, and gave no evidence of the usual complications.

Dr. Wilson then reported cases illustrative of some of these conditions and results. That gonorrhœa does frequently prevent conception is probably well established, but he does not think it is by any means the universal rule; clinical illustrations are too many to the contrary. If Noeggerath's statements are literally true, sterile women and fruitless marriages would be far more common, and the increase in the race would be greatly lessened, for there is a surprisingly large percentage of men, judging from his experience, who, if they confessed the truth, have suffered at some time in their lives with gonorrhœa.

## SOME REMARKS ON THE PRACTICAL TREATMENT OF HEPATIC ABSCESS.

By DR. JAMES E. THOMPSON, of Galveston, Texas.

The author confined himself to a few practical remarks on the diagnosis and treatment of hepatic abscess, and reported two interesting cases. He mentioned a few points on the treatment of the cavity after the contents had been successfully removed. It is often exceedingly difficult to obtain free drainage even when large tubes are employed. In some cases even swabbing the walls of the cavity is ineffectual, and these cases are practically hopeless, owing perhaps to inherent tissue weakness. The author tried curetting in one of his cases, and although he removed as he thought all necrotic tissue, still in a few days the cavity was as bad as before. Continuous irrigation often affords a means of efficient removal, but the tubes have an aggravating habit of becoming blocked, necessitating frequent changing and cleaning. Irrigation with a solution of sulphate of quinine, 1-1000, was in one of his cases remarkably successful, and although the improvement may have been a coincidence and not a *post hoc ergo propter hoc*, he thinks that in cases of amoebic dysentery, at least, it deserves a fair trial.

The following officers were elected for the ensuing year:

*President*—Dr. Cornelius Kollock, of Cheraw, S. C.

*First Vice President*—Dr. A. B. Miles, of New Orleans, La.

*Second Vice President*—Dr. J. B. S. Holmes, of Rome, Ga.

*Secretary*—Dr. W. E. B. Davis, of Birmingham, Ala.

*Treasurer*—Dr. H. P. Cochrane, of Franklin, Tenn.

After introducing and adopting resolutions of thanks, the association adjourned to meet in the city of Charleston, S. C., third Tuesday in November, 1894.

## CLINICAL SOCIETY OF MARYLAND.

*Stated Meeting Held November 17, 1893.*

Dr. J. Edwin Michael, President.

Dr. W. F. Lockwood in his paper on

## THE EARLY DIAGNOSIS OF TYPHOID FEVER

said he wished to call the attention of the profession to the great importance of an early diagnosis here.

The fact that so much is gained to the patient by early and prompt application of "bath treatment" should stimulate us to give him its benefit as soon as possible.

He thought if we would in every case of fever study carefully all the attendant symptoms, and make use of the several tests, examination of the blood, administration of quinine, etc., to eliminate the possibility of malaria, tuberculosis, etc., we could often arrive at a definite diagnosis much sooner than if we waited for all the characteristic symptoms of the disease to present themselves. He believed it possible, in a large proportion of cases, to arrive at a diagnosis within forty-eight hours. In many cases the onset is very sudden, and patient appears first in your office. He may have no single symptom as conclusive as "rose spots," and yet a study of all his symptoms taken collectively will lead you to think of typhoid.

Dr. Julius Friedenwald followed with a paper on

#### THE DIAZO-REACTION OF EHRLICH.

The reaction is carried out in the following manner:

Two solutions are prepared:

(a) 2 grams sulphanilic acid.

55 cc. hydrochloric acid.

1000 cc. distilled water.

(b) 0.5 per cent. solution of nitrite of soda.

In order to perform the reaction 50 parts of *a* and 1 part of *b* are mixed and equal parts of this reagent and of urine placed in a test tube and saturated with ammonia. In those cases in which the reaction is positive, the solution assumes a carmine red color, which on shaking must also be visible in the foam. If the test tube is allowed to stand twenty-four hours a greenish precipitate is found.

Dr. Friedenwald reviewed the literature of the reaction and showed that the objections offered to it depend upon errors in the performance of the test.

1. Very weak solutions of sodium nitrite ( $\frac{1}{2}$  per cent.) should be used.

2. The alcohol test (as proposed by Von Jaksch and others) is not to be employed.

3. A positive reaction is only one in which the red reaction is present in the foam.

Dr. Friedenwald's observations with this reagent includes over 3000 reactions.

Twenty-one cases of typhoid fever were examined; the reaction was absent in but one case. The reaction was obtained as early as the fourth day of the disease and as late as the twenty-sixth. From his observations in typhoid fever he concludes:

(1) That the reaction is very constant in this disease.

(2) That it makes its appearance usually within the first week.

(3) That the reaction gradually disappears between the end of the second and third weeks.

Examinations were made in forty-three cases of pulmonary tuberculosis. Of these twenty-nine were severe cases with almost constant reaction, fourteen were light forms which did not show the reaction. Of the twenty-nine severe cases twelve died while still under observation, eight are still under observation in an unimproved condition.

The presence of the reaction in this disease extending over long periods of time may therefore be regarded as a grave sign.

The reaction was also found to be present in

Three cases of erysipelas (for several days).

One case of bone abscess (tuberculous).

One case of liver abscess.

One case of suppurative glandular disease of the neck.

One case of tubercular hip joint disease.

One case of spinal disease.

One case of pneumonia (very grave, died).

One case of cancer of the stomach.

One case of septicæmia.

The reaction was never obtained in healthy individuals, nor in many disorders of various kinds, including twenty-one cases of malaria, eleven cases of diabetes, forty-two cases of gastro-intestinal catarrhs. Dr. Friedenwald's observations therefore entirely confirm those of Ehrlich. He concluded with emphasizing Ehrlich's statements:

1. The diazo-reaction is of great diagnostic value in typhoid fever.

2. If the cases show a slight or no reaction between the fifth and eighth days, or other appearances pointing to typhoid fever, it can be looked upon at once as an exceedingly light form, and the prognosis made accordingly.

3. Gastro-intestinal catarrhs, accompanied by fever, always run their course without a reaction.

4. Very marked and constant reaction may accompany mild forms of typhoid fever and do not justify a bad prognosis.

5. Reactions appearing continuously for a long time in phthisis pulmonalis (two months) always indicate a grave prognosis.

Dr. Jas. T. Smith remarked that except during an epidemic we are hardly expecting to see typhoid in our offices. Oftentimes much aid will be obtained by learning the recent abode of the patient, whether he has been living in a "malarious district" or a region infected with typhoid. An important point is to get suspicious cases to bed and watch the temperature.



Dr. Geo. J. Preston: Some malarial cases of irregular character simulate typhoid very closely. As an illustration of the difficulty of recognizing typhoid by clinical appearances, I call to mind two cases seen at City Hospital.

CASE I.—Had high evening temperature, morning remissions, coated tongue, abdominal tenderness and all symptoms save “rose spots.” Died in coma. Autopsy showed no evidence of typhoid and in fact no other cause for death.

CASE II.—Second day after entrance patient had peculiar, irregular temperature accompanied by wild delirium. No classical symptoms of typhoid, yet upon autopsy the bowel was found to be filled with typhoid ulcers. I have had most trouble to distinguish it from acute miliary tuberculosis, and recall one case of meningitis which closely resembled typhoid.

I have followed Dr. Friedenwald this summer in his tests and think, while they are not conclusive, they are of particular value in distinguishing from malaria.

It has not failed once in our cases.

Possibly some good might come of the use of sulphanilic acid in treatment of typhoid.

Dr. I. E. Atkinson: Several years ago, while in charge of the medical wards at Bay View, I made use of Ehrlich's test, and found the reaction not only in typhoid, but in pneumonia, phthisis and I think sometimes in malarial fever. The main objection to its use was that the reaction was common in acute miliary tuberculosis and other diseases which simulate typhoid.

My experience is that even with most careful examination I often can not make diagnosis in a few days. I believe many cases of typhoid are never recognized and the ambulatory cases are very common. Some cases go on day after day with malaise, slight elevation of temperature—never over 1 deg.—no epistaxis, no rose spots, etc., and then suddenly develop unmistakable typhoid symptoms. So I have come to regard every case of continued fever which can not be classified as some other disease, as typhoid. Especially do I think this applicable to children, though I have not proved it by autopsies, as children rarely die of the disease.

Dr. W. T. Howard, Jr.: Dr. Welch once said that “in this latitude, any case of continued fever which is not malarial, septicæmic or tubercular, is typhoid.”

You can eliminate the first three diseases by microscopic examination of the blood.

In the blood of typhoid there is no leucocytosis, or increase of poly-nuclear cells.

I have failed to grow the typhoid germ from blood of living subject, but have once obtained them from the urine.

Dr. John Hewetson reported the use of Ehrlich's test at the Johns Hopkins' Hospital.

We have just finished a summary of the 229 cases treated during the past four years. Of these the test was carefully made in only the last 196, and the reaction obtained in 136 instances. As many patients however came to us in the third or fourth week of the disease, it is not fair to say that the reaction was absent in 30 per cent. of our cases, for it may have been present in the earlier stages.

Indeed it is quite common to find it disappear from the urine after the second week. We are not able to give statistics as regards the time of appearance, duration, etc., from the entire number, but from a study of fifty cases it occurred in 77 per cent. in the first week, 67 per cent. in the second, 47 per cent. in the third and 17 per cent. in the fourth, occurring less frequently after this period, being however quite often present during a relapse. As far as I can remember the reaction was in no case obtained before the fourth day. It was frequently found in tuberculosis—34 per cent. of all cases showing the reaction—and in pneumonia, measles and some cases of malarial fever. The reaction seems to fail us just when we need it most, *i. e.*, in differentiating typhoid fever from acute miliary tuberculosis.

It is a sign however which we can not ignore, as is shown in one case which I shall briefly relate.

A patient was admitted to the hospital in March of 1892 with symptoms of a severe entero-colitis, the stools very frequently contained blood and mucus. The diarrhoea was with difficulty checked.

He apparently recovered completely and was discharged in April. Five weeks later he returned with a severe diarrhoea—5 to 24 stools in the 24 hours—and symptoms which in every way corresponded to his previous attack. The temperature did not range high, only once or twice touching 102 deg. His general condition in every way resembled that of his first admission, except that his urine showed a distinct diazo-reaction, which persisted until death, which occurred five days after entrance. Autopsy showed typical typhoid lesions, the glands in the small and large intestine being swollen and infiltrated.

This, then, would go to support Von Noordin's view, that the cases of gastro-intestinal catarrh with a persistent diazo-reaction in the urine should be regarded as cases of typhoid fever; but we have not seen it present frequently enough to warrant our giving a decided opinion on the subject.

The degree of value to be attached to the presence of this reaction in the urine for diagnostic purposes is a question.

That it is an aid seems undoubted and we can not afford to neglect anything which may assist us in this often extremely difficult question.

H. O. REIK, M. D., *Secretary*.

525 North Howard Street.

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## Selected Article.

### SYMPHYSEOTOMY.

By DR. WALLACH, Chief of the Obstetrical Clinic of the Faculty, Paris.

[From J. L. Championnière's *Journal de Médecine et Chirurgie Pratiques*.]

Symphyseotomy, or section of the pubic symphysis, is an operation, the aim of which is, by separating the iliac bones, to enlarge the dimensions of a pelvis too narrow for the foetus which has to pass through it. Why has that operation been abandoned, though invented over 100 years ago by a French physician—Sigault? Why has it been forgotten, condemned and then taken up again and definitively adopted for a year and a half? It is because it came before its time; the results obtained prior to antisepsis were not very encouraging. It is true that some successful cases are recorded, but, in general, it made many victims and had to be given up. In spite of this just discredit, some few Italian accombeurs continued to practise that operation; especially one of them, Dr. Morisani, professor of obstetrics, at the University of Naples, continued to defend it with a tenacity which was bound, to his greater glory, to triumph at last over all obstacles.

The first results published by him were not calculated to carry conviction—the maternal mortality was larger than that of Cæsarean section and embryotomy; and it was preferable to sacrifice the child by crushing it with the cephalotribe, by laminating it across the pelvis with the forceps, or by version, or causing it to be born prematurely with a viability too often insufficient, sooner than to expose the mother to the grave dangers then connected with symphyseotomy. But with the end of 1891, an assistant of Prof. Morisani, Dr. Spinelli, gathered twenty-four cases without a mother's death, came to Paris and exposed these results to Dr. Pinard. Professors Farabeuf and Pinard and Dr. Varnier studied the operation on a cadaver, measuring exactly the enlargements obtained by such and such a separation in pelvis of various dimensions, and gave precise rules for the operation. This done, Dr. Pinard declared in his lecture of December 7, 1891, that he would no more crush living children. He undertook the opera-

tion for the first time in France in February, 1892. In April, 1893, Dr. Varnier established by a general gathering of published cases that eighty-two symphyseotomies had been made since in France as well as in Germany, Austria, Russia, the United States of America, England and in Canada—and that henceforth their number has notably increased.\*



FIG. 1. *Median Section Reclining Posture.*—V, bladder; U, meatus urinarius; C, clitoris with its dorsal vein underneath the symphysis S, the cavity of which occupies half of its height and width and flush with the posterior border. The concentric layers of the symphyseal cartilage appear very sharply above, in front and below. D, rectus abdominis muscles.—(Farabeuf.)

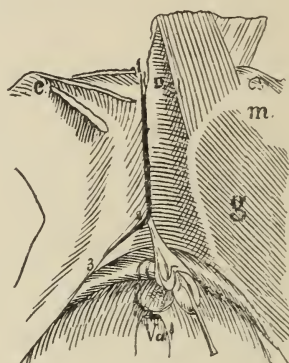


FIG. 2. *Ant. Wall of Symphysis S.*—D, rectus abdominis muscle; P, pyramidalis M; M, adductor brevis muscle; G, gracilis muscle. The dorsal vein of the clitoris, and others pass under the inf. border or subpubic ligament S. After a bold median incision from 1 to 2, the bistoury, or the *rugine*, might, for fear of the veins, slant obliquely from 2 to 3, and yet cut all.—(Farabeuf.)

Before going further I desire first to indicate the operative results of section of the symphysis, and how this pubic symphysis is constituted.

A view of the accompanying diagrams taken from a memoir of Dr. Farabeuf (*Ann. de Gynécologie*, Dec., 1892), and which he has kindly allowed us to use, will give a better idea of the anatomy of the pubic symphysis than the longest possible description. Examining these diagrams we must become convinced that in cutting the symphysis directly in front from above downward clitoris and the urethra can not be hurt. As to the bladder it can be easily protected by introducing a finger along the posterior wall of the symphysis. These anatomical facts demonstrate that an incision can be made prudently yet securely in the fibro-cartilage of the symphysis and the subpubic ligament (Figs. 1, 2, 3, 4).

\* Varnier—Bilan de la Symphyséotomie Renaissance. *Ann. de la Gynécologie*, Avril, 1893.



That incision made, what result has been obtained?

Here also no description could take place of the Figs. 5 and 6 of Dr. Farabeuf. From these it is apparent that by separating the iliac bones, which is done by means of the play of the sacro-iliac articulations, the dimensions of the pelvis become augmented. The antero-posterior diameter of the superior strait, for example, from 8 cent. before the separation of the innominate bones measures 10 cent. when a separation of 6 cent. has been produced (Fig. 6).

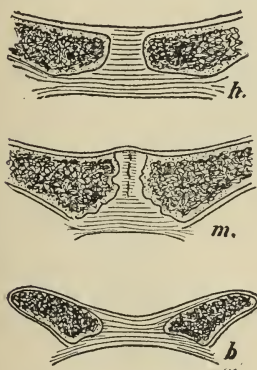


FIG. 3.

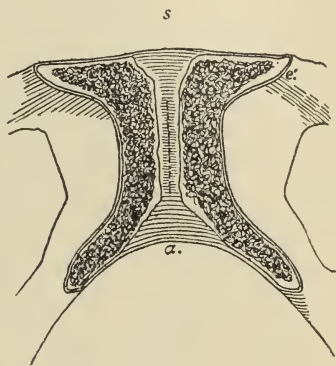


FIG. 4.

FIG. 3. Three antero-posterior horizontal sections of the symphysis *H*, above the middle; *M* in the middle, exposing the cavity; *B*, below, across the arched lig. Above, at *H*, the separated bones allow the bistoury to enter the cavity easily; the same in the middle, *M*, if cut from before backward, as behind the bones come nearer together and the junction is almost linear. (Farabeuf.)

FIG. 4. *Transverse Vertical Section* sufficiently near to the pelvic wall to open the cavity. *EE*, place of pubic syrnes; *S*, superior fibres, forming a cuneiform mass easily to be attacked in its osseous fossa; *A*, superior fibres, forming the arched ligament, also called subpubic, sub-symphysian. (Farabeuf.)

But, to avoid proceeding blindly in producing that separation, it was necessary to ascertain what augmentation of the antero-posterior diameter (which is the insufficient diameter) was obtained in pelves of various dimensions, by a given separation. Dr. Farabeuf has experimentally obtained the results contained in the table (Fig. 7), which needs only to be consulted to know what augmentation in a pelvis measured previously will be produced by a given separation.

Studying these diagrams we can also verify the proportions formulated by Dr. Farabeuf as follows:

“The enlargement of the antero-posterior diameter is not uniformly proportional to the separation of the severed pubis; that enlargement is progressive; that is, while minimum for the first centimetres of pubic separation, it grows more and more with every new centimetre added to the preceding ones.

For instance, if a pubic separation of 3 centimetres lengthens the practicable antero-posterior diameter by 8 millimetres a separation of 3 centimetres more will lengthen it by 12 millimetres and not by 8." (Page 6, *loc. cit.*) This enlargement is the more progressive the smaller the pelvis is. Thus, a pelvis measuring at the superior strait in its antero-posterior diameter 5 centimetres gives for a separation of 5 centimetres an

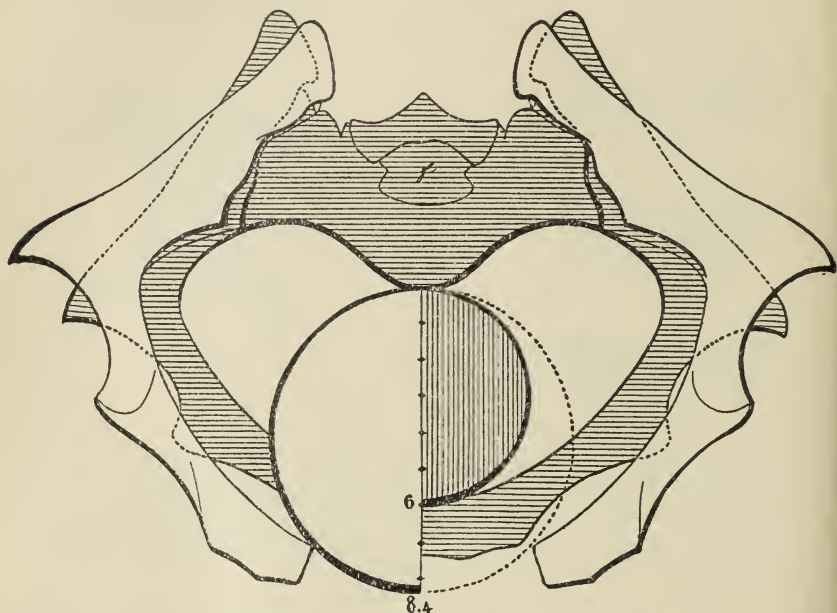


FIG. 5. This diagram shows the exact result of symphyseotomy after an artificial symmetrical separation of 60 millim., equal on both sides. The section is parallel to the plane of the superior strait of a very narrow pelvis, with a sacro-pubic diameter of 6 cent., represented by shading anterior to the section of the symphysis, and white after a separation of 60 millim. allowed by this section.

The diameter of the white sphere received by the distended pelvis is to the diameter of the shaded sphere adjusted to the intact pelvis as 84:60. The volume of the white sphere is to that of the shaded one as 310:113; the one is almost thrice the other. It is evident that, by making the separation a little larger—of 7 and even of 8 centim., though with a risk to the soft parts—(I would be particularly concerned about the vulvo-vagino-vesical anterior ones)—a head at full term would be made pass. (Farabeuf.)

antero-posterior diameter of 7.3 cen., and for a pubic separation of 7 cen. an antero-posterior diameter of 8.5 cen., the difference amounting to 12 mm. In a pelvis of 10 cen., in its antero-posterior diameter of the superior strait, a pubic separation of 5 cen. gives an enlarged antero-posterior diameter of 11.4 cen. and 12.1 cen., with a pubic separation of 7 cen., the difference amounting to 7 mm. It is, therefore,

in the narrowest pelvis that the separation of the innominate bones produces the most progressive enlargements.

The dimensions of a pelvis being given, and knowing the benefits resulting from a given pubic separation, it remains to be known if a maximum separation generally of 7 cm. will

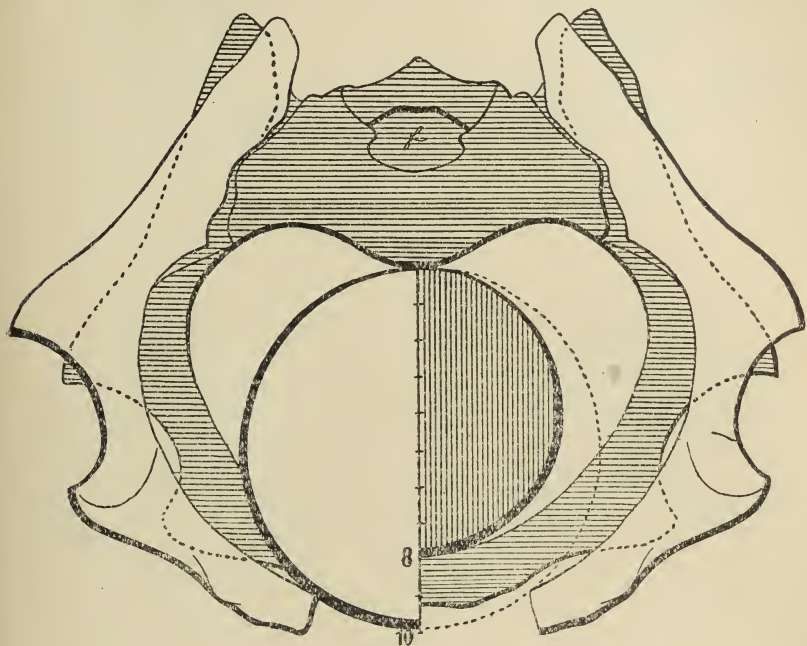


FIG. 6. Rigorously exact result of symphyseotomy of a pelvis with a promonto-pubic diameter of 8 centim.: represented shaded prior to the operation, and white after a separation of 60 millim. The cut is parallel to the plane of the superior strait. The diameter of the white sphere received by the distended pelvis is to the diameter of the shaded one adjusted to the intact pelvis as 90:80.

The volume of the white sphere is to that of the shaded one as 488:267—almost double. In other words, a fœtus of 3000 grammes will be smaller for a pelvis operated upon than a fœtus of 2000 grammes, for an intact one.

Comparing this result (diametric gain of 18 millim.) to that given by the diagram, referring to the pelvis of 6 centim., which has gained 24 millim., we see that symphyseotomy adds less to large pelvis than to small ones. (Farabeuf.)

produce an enlargement of the pelvis sufficient to allow the passage of the fœtus. The study of Dr. Farabeuf's measurements teaches us that it is only in the case of pelvis the antero-posterior diameter of the superior strait of which measures less than 7 cm.—very rare cases—that a fear might arise that the maximum separation would not allow the passage of the head of a fœtus at term, whose biparietal diameter would be 9.5 cm. Above these constrictions of 7 cm., the separation

will give an enlargement sufficient for the passage of even a voluminous foetus.

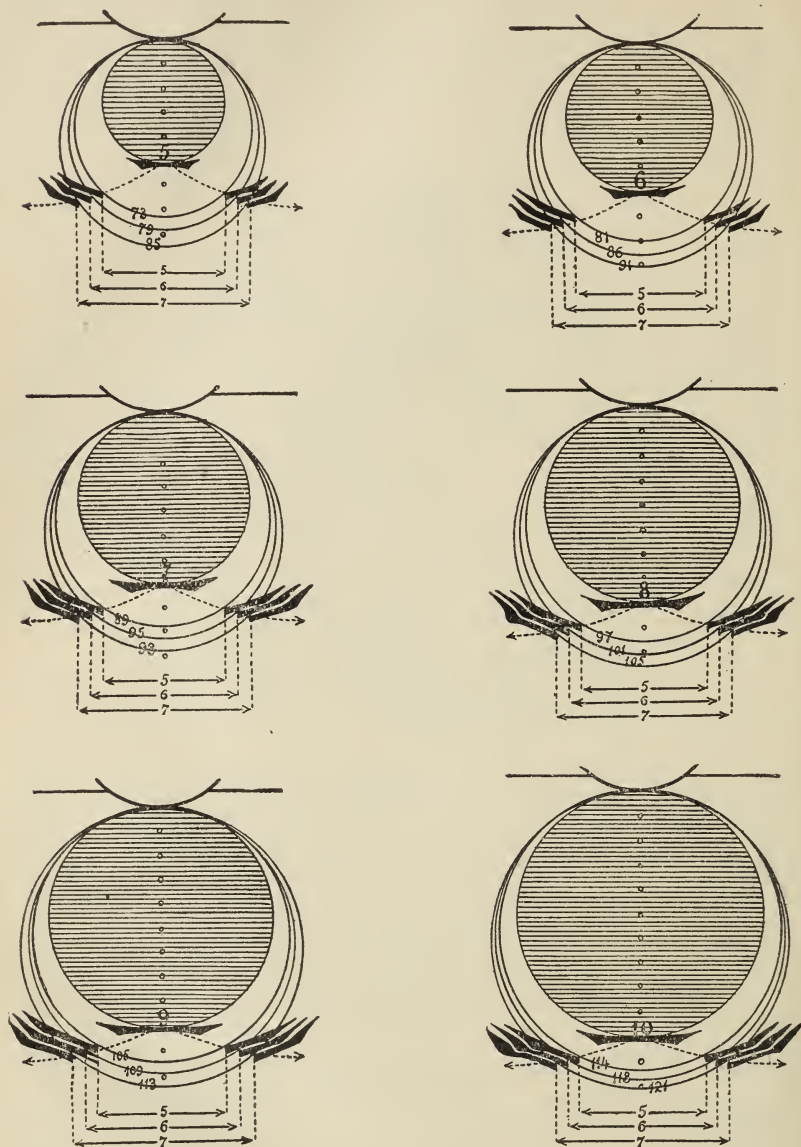


FIG. 7. Results of symphyseotomy applied on pelvises of five, six, seven, eight, nine, ten centimeters, the original capacity of which is indicated by shaded circles. The diameter of the practicable circles obtained after a pubic separation of five, six or seven centimeters is inscribed in millimeters. (Farabeuf.)



The operative manual in symphyseotomy, as instituted by Professor Pinard at the Clinique Baudelocque, is as follows:

The woman is placed across the bed on her back, the thighs in abduction, flexed on the pelvis by two assistants. The pubic region is washed with soap and water, then with ether, and lastly with a solution of biniodide of mercury of 1 to 2000.

It is not amiss if also the surrounding parts are washed which might be touched during the operation, and which will be covered afterward by the dressing. These are washed very carefully, also the lower half of the abdomen, the groins, the vulva, the margin of the anus. The bladder is then catheterized, and a vaginal injection made.

The operation has three stages:

1. Incision of the integument, etc.
2. Incision of the symphysis and of the sub-pubic ligament.
3. Separation of the innominate bones.

1. *Incision of the integument*: The length of the incision can not be fixed on beforehand, as the symphysis varies in height in different subjects. The incision must be vertical, midway between the pubic spines, beginning on a level with, and a little above, the superior border of the symphysis, and descending to its inferior border, deviating in the vicinity of the clitoris without cutting into the superior part of the vulva. The integuments are also incised as far as the cartilage, without stopping to check the bleeding from small arteries. The fibro-cartilage is set free with scissors upon the index finger serving as guide on the level with the anterior wall, or the superior border of the symphysis; two small transverse incisions are then made, beginning at the median line, passing close by the superior border of the symphyse so as to dissect the aponeurotic tissues for the opening of a passage for the index, which is shoved in along the posterior wall of the symphysis. That finger feels very well the posterior prominence of the symphysean fibro-cartilage; thus placed it serves as a precious protector to organs posterior to the symphysis, and the second stage begins.

2. *\* Section of the Symphysis*. A straight bistoury carried to the bottom of the wound, can only reach either the bone, which resists, or the cartilage, which is easily cut into. This latter is dissected from before backwards, and from above downwards. After having cut into it with a straight bis-

\* For a description of Galbiati's knife, see article of Dr. Paul Michinard in JOURNAL, April, 1893.

toury, the section is terminated with a buttoned one. At the moment of dissecting the subpubic ligament, an assistant introduces a rigid sonde into the bladder, depresses the urethra, and the section is continued with prudence, by small strokes, as long as the bistoury is heard scraping. Gradually the resistance is felt to cease, then comes brusquely a slight

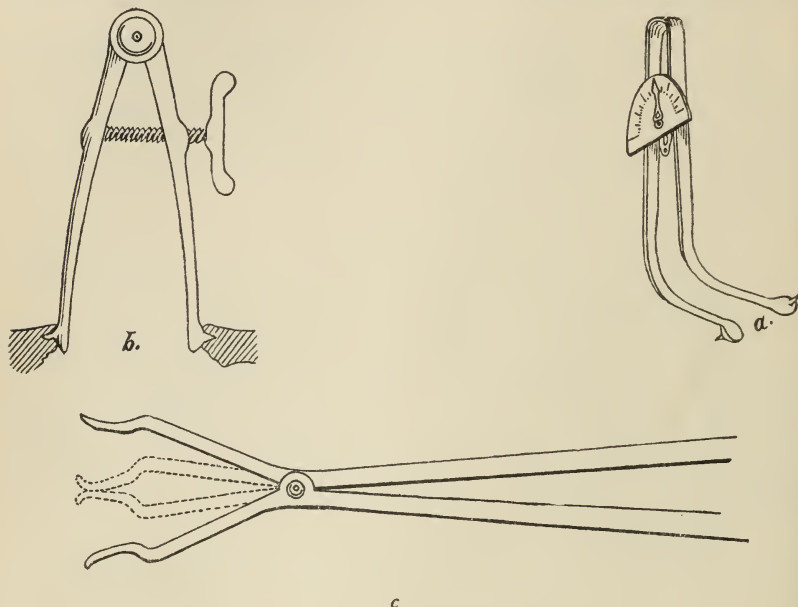


FIG. 8. 1. After the symphseotomy, it is not amiss to place between the pubes a kind of elastic pinchers with a quadrant indicating the amount of the separation. The instrument *a* about Om. 15 long, curved in order to repose on the belly, ..as at its extremities hemispheric buttons, provided each with a solid point, which have to be well stuck into the plane bony surface; that is the postero-median one to the walls of the symphysis.

2. After the interpubic section, the anterior sacroiliac ligaments have to be overcome; a symphyseotomy with a double symphyseoclasia added to it.

The instrument *B* is an interpubic separator with a screw—also Om. 15 long as powerful as the *desencasteteur* of veterinary surgeons, which suggested to me the idea. Where the points have to be placed is apparent. In operations of the bladder the separation is maintained without assistants; the field remains clear while the instrument is in position.

The instrument *C*, the action of which can be limited at will, is a great deal more powerful than the preceding one. It is not intended to remain on the spot, but to produce to the required degree the immediate and momentaneous separation, which the accoucheurs are bound to provoke before grasping the head with the forceps.

The manual separation by means of the abduction of the thighs is not easily regulated, and if what is necessary is not done for fear of going too far either on both sides or on one, the child is either killed or at least it is in danger of being killed.

True symphyseotomy is not responsible for children that have mechanically died from an incomplete operation, no more than for the mothers carried off by septicæmia, caused either by the operation or by previous manipulations. (Farabeuf.)

shock, the iliac bones separate, the symphysis is cut in all its height, and the third stage is entered upon.

3. *The Separation of Innominate bones:* The assistants produce that separation by a motion of abduction of the thighs, progressively and slowly exerted. The surfaces of the section come apart, and according to the degree of the separation produced, one, two or three fingers may be introduced between them.

We know that this separation can be continued to 7 centimetres without any danger to the sacro-iliac articulations. This separation can be also produced by the operator himself with the *separator* of Fig. 8, designed by Dr. Farabeuf. But it is above all advantageous, while at liberty to dispense with in case of urgency, to use the *pinchers with quadrant*, represented in the same Fig. 8, *a*, and on which the progress of the separation is indicated in millimetres.

When the obtained separation is deemed sufficient the assistants should neither increase nor diminish it without the operator's orders. The wound is tamponed with a sponge, a tampon of cotton batting or with iodoform gauze, and the extraction of the fœtus is then proceeded with.

*Extraction of the Fœtus:* This is performed artificially; the forceps are applied according to the classic rules at the clinic, by placing the arms upon the parieto-malar regions of the flexed head, and pulling; the head descends easily, causing, if the separation was not quite sufficient, the index of the quadrant measuring the separation to rise a little. But the sensation that the head falls upon the perineum is felt from the beginning of the traction. No force must be exerted. If resistance is felt the pubis must be more separated, as far as the limits will permit.

As the head has descended transversely into the excavation it is made to execute its rotatory motion, that it might traverse the inferior bony and muscular straits. Here comes a manœuvre of highest importance (advised by Dr. Varnier.) The integrity of the anterior wall of the vagina is here involved, the tearing of which is so frequent when operators who do not follow the process do the work.

Let us then examine the state of the vulva and of the soft parts while the innominate bones are separated; they no more present an opening from above downward and from before backwards—which opening is longitudinal—but an opening drawn out transversely, the long axis of which is transverse, and the superior border of which is no longer supported by the separated bony parts. The head, however, which had been just caused to execute its rotary motion, presents then just its

greatest dimensions, directed longitudinally to the transverse vulvar opening.

When pulling and desiring to extract under these conditions the vulvar opening and the soft parts give way in the unsupported parts on account of the pubic separation, hence the tears of the anterior wall of the vagina. To avoid this the manœuvre advised by Dr. Varnier is of the most simple. The head having effected its motion of rotation, the assistants bring the thighs nearer together; the separation of the iliac bones disappears, and with it the transversal shape of the vulvar opening which reassumes its ordinary aspect with its great axis longitudinally; and thus the head traverses without causing any damage the inferior bony and the inferior muscular straits, and the vulvar opening as in an ordinary accouchement.

The operation is finished in its essential parts. Then the umbilical cord is tied or compressed and then cut, and the newborn child is handed over to an assistant. A vaginal injection is made and the placenta delivered; then comes an intra-uterine injection. A piece of iodoform gauze is then placed in the vagina, and the operative traumatism again receives attention.

The tampon that had been placed in the wound is taken out, and the surface of the latter is touched either with carbolized water (5 per cent. solution) or with biniodide (1 to 2000). The assistants bring the innominate bones together by pressing upon the hips, and the sutures are inserted, which are applied only to the integuments, and consist of two or three deep stitches and as many superficial ones as are needed for a very good approximation.

The wound is covered with iodoform gauze, or antiseptic cotton batting. Around the pelvis a body bandage is tightly drawn, and a T-bandage applied.

In the *Clinique Baudelocque* the patient is transported to a special bed, a kind of gutter, of Bonnet, very handy for the toilet, but which can be very well dispensed with in practice, by placing around the hips a plaster of Paris bandage provided with a large fenestra over the pubic region, which must be kept free for subsequent dressings.

These must be renewed pretty often, say twice a day, considering the difficulties occurring in obtaining perfect occlusion of the dressing in that region. This dressing is made dry; it consists in changing the iodoform gauze, which gets almost always soiled in its inferior parts on the level with the vulva during micturition. The piece in the vagina may be left in place for two or three days—it insures the antisepsis of the vagina, which allows us to dispense with injections during this first period. This is important, for it is useful to exert a cer-



tain constriction of the pelvis; the legs also must not be allowed to separate for the first few days, and it would be advisable to tie them solidly together. Under such conditions it is difficult to apply injections; it is then sufficient to bathe the vulva after each micturition.

Toward the eighth day the wound is cicatrized. Pretty often an œdema of the pubis has been produced, which involves some of the cut on the level with the threads, which can be then taken out—a part one day, another on the following one. Pretty frequently also an unilateral or bilateral œdema of the vulva can be noticed, but this is without any consequence.

The temperature is as usual after normal confinements. The regimen is the same. Sometimes the patient has on the first and second day some tympanites—but this gives way to an enema, containing a glass of pure wine and two spoonfuls of glycerine—or to a purgative.

Opiates must be abstained from during the first days, as they cause tympanites.

About the tenth day, the woman can move in her bed, and can get up mostly about the twentieth day. She feels no pain, neither in the symphysis, nor in the sacro-iliac articulations. Our subjects could nurse their children.

As in all operations, so in symphyseotomy, there occur certain difficulties upon which it will be well to draw the attention.

1. If the bistoury does not act in the median line, some difficulty might be experienced in finding the fibro-cartilage of the symphysis; the blade tries in vain to incise the bone, and many a beginner might become discouraged at that moment. The symphysis, however, can not be missed, if the incision of the teguments is made exactly on the median line, and reaches the anterior parts of the symphysis; the cartilage of which is recognized by the facility with which the bistoury cuts into it. There is no danger of becoming lost, except when that cartilaginous portion is sought on the superior border of the symphysis, instead of being sought on the anterior wall.

2. It might happen that from timidity in operating, or else by following the advice of certain German authors, only an incomplete section of the symphysis is made. The result is that the separation of the iliac bones will be either none, or insufficient. The symphysis must be sectioned in all its height, and this becomes apparent through a cracking called forth by the tearing of the sub-pubic ligament inserted in the inferior border of the symphysis and by the spontaneous parting of the iliac bones, leaving between the pubis an empty space. During the section of the inferior parts, the urethra, depressed

by a sound, runs no risk of being cut into. It happens that at that moment a hæmorrhage occurs, which in our hands has always given way to tamponing.

3. Before proceeding to extraction, a certain separation of the iliac bones must be always established by the abduction of thighs that the dilatation of the basin might not be left to the head itself to perform, which it could do seldom without a traumatism being inflicted on the skull of the fœtus. When this previous separation, desired and calculated, has been obtained, the assistants holding the thighs must not move any more; they must not diminish that separation nor augment it without an order of the operator.

4. The head must be grasped by the forceps regularly, the blades being applied to the parieto-malar regions of the flexed head. If it is grasped irregularly, the head offers to the pelvis diameters too large, so that either this latter becomes too dilated if the assistants do not maintain the separation decided upon, or if the pelvis resists, the head will give way and become fractured.

5. The head having descended into the excavation and having executed its motion of rotation, it becomes necessary, according to an advice of Dr. Varnier, prior to the extraction through the inferior strait, bony and muscular, to bring the pubes together, the separation of which is no longer required; the vulva is no more transversely drawn out and pelvic bones again perform their duty of supporting the soft parts which are not torn.

It is through having acted according to these rules, that Dr. Pinard could submit to the Obstetrical Society of France in April, 1893, the results of nineteen symphyseotomies performed in his service by himself or his pupils.

All the mothers were cured without complications, and sixteen children could be extracted alive, and left the service alive. Of these women sixteen have had thirty anterior pregnancies, the terminations of which had been directed according to methods in use prior to symphyseotomy—that is, provoked premature accouchements, forceps, version or basiotripsy. These thirty anterior pregnancies had resulted in the birth of two living children.\*

\* \* \*

When is symphyseotomy spoken of at the clinic Baudelocque, in the service of Dr. Pinard?

Under two circumstances:

1. After having examined a pregnant woman.
2. After having examined a woman in labor.

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\* Since April, a subject of symphyseotomy infected before the operation has succumbed in the service of Dr. Pinard. We shall return to that fact in the sequel.

1. When after examination of a pregnant woman it has been ascertained that her pelvis is narrowed (but that this narrowing is not below the above indicated limits) symphyseotomy is decided upon to be performed if, when labor shall have spontaneously begun, the volume of the child's head does not allow it to pass through the pelvis. And what happens? It happens pretty often, when the woman has entered upon labor, that the fœtus, coming at term, is not very voluminous, and that it spontaneously traverses the pelvis; in other cases the pelvis opposes to the head an invincible obstacle: symphyseotomy is performed, and afterward the forceps is applied.

Does this mode of proceeding differ from the practice followed before the readoption of symphyseotomy? Most certainly it does. Following rules, then considered classic, and based upon mediums of dimensions of the fœtal head of six, seven and eight months of pregnancy, an accouchement of seven months might have been provoked at that period for a pelvis of seven centimetres; one of eight months for a pelvis of eight centimetres; but these irrational proceedings have been renounced, as the volume of children is not fixed at all. A child of small volume might pass through a very narrow pelvis, while a very voluminous child might not be able to pass a normal one. And according to women, even in the same woman at different pregnancies, the volume of the fœtus is not fixed, not absolute at all. Other means have been therefore resorted to to determine approximately the volume of the fœtal head. By means of palpation the head of the fœtus is applied to the superior strait, and an effort made to feel if it touches the pubic symphysis (method of Dr. Pinard). This method often furnishes very useful measurements, but also only very approximate; it would lead to premature accouchement for fear of doing it too late, at a time when the head could no more pass through the pelvis. It remains for us to study what was done in such a case formerly, and what can be done at present, which leads us to our second proposition:

2. When is symphyseotomy proposed after examination of a woman in labor?

What is done when it has been ascertained that the os is fully dilated, that the head of the fœtus remains above, retained at the superior strait, too voluminous to be able to spontaneously traverse the pelvis—the fœtus, of course, being alive?

• Symphyseotomy is performed, a separation of the pubes is produced—which we have learned to determine. The way being thus opened, the obstacle removed, the forceps is applied, and the child is then easily extracted without being killed and without hurting the mother. This is what is done at present.

What was done formerly, before recourse could be had to symphyseotomy?

Some applied the forceps and pulled—standing, seated or reclining, alone or with assistants—exerting an unknown power, or else one estimated at 40, 50, 60 kilog. But that power acted upon the foetal head like the branches of a pencil holder act upon the pencil, which they compress when the ring is pushed down.

Dr. Farabeuf has mathematically established that power brought to bear upon the head, and it was equal to the force of traction multiplied by 10; that is, in the case when the traction was of forty kilogrammes—the force brought to bear upon the head was of 400 kilogrammes. The heads were fractured—would have been by less; and anyhow, it was only at that price that they passed, when too large, through a pelvic channel which was too small. Version gave no better results, as we shall see directly.

In the case of 114 applications of forceps at the superior strait made in the service of Dr. Pinard, that is under favorable conditions, and before the revival of symphyseotomy, thirty-five children died or were injured, according to a review of Dr. Varnier.\*

Does version give better results across contracted pelves? From 234 observations of the practice of Dr. Leopold in Dresden, and of that of Dr. Braun in Vienna, a mortality of 32.1 per cent. is arrived at.†

This is not all. What was done besides? If, after having pulled by the head nothing came, the resistance being insurmountable, there remained nothing but to proceed to the crushing of the head to perform basiotripsy upon the living child—a work, upon the sad features of which it would be superfluous to expatiate.

To resume, symphyseotomy can be decided upon in two cases, either as an operation of choice, foreseen during the pregnancy, or as an operation of necessity, of urgency, during labor.

As far as being an operation of choice it is now being actively discussed; in the last meeting of the Obstetrical Society of France the French school was divided in two camps—two parties.

Those on one side insisted upon the merits and the happy results of premature accouchement, provoked at an epoch when the foetus, having not yet acquired its complete development, can traverse the narrowed pelvis (Tarnier, Bar); those

\* Dr. Varnier, Société Obstétricale de France. Annales de Gynecologie. Avril, 1893, p. 349.

† Dr. Varnier. *Ibid.*, p. 345.



on the other side declared themselves partisans of symphyseotomy, preferring to allow the fœtus to attain a sufficient viability to reach its term, if the estimated enlargement of the pelvis allows the passage of the fœtus by means of the maximum separation, which is by far the most frequent case (Pinard, Varnier). This latter mode of proceeding enables very often women to pass to full term, in whom, before the advent of symphyseotomy, it would have been a duty to provoke a premature delivery.

As far as being an operation of urgency, two opinions have been put forward by French accoucheurs; some would not consent to perform symphyseotomy but under the following conditions: (1) certainty of the previous non-infection of the mother (Fochier); (2) that symphyseotomy should not be resorted to until extraction by means of forceps or by version had been tried (Budin). Others declared that in case of urgency symphyseotomy had to be performed at once, and extraction by means of forceps proceeded to only after having brought about the necessary separation (Pinard, Varnier).

\* \*

Before taking one part or the other, when confronted by these divergent opinions, the results must be first studied. All the observations published in April have been gathered by Dr. Varnier in his memoir on the Bilans of Symphyseotomy (April, 1893—*loc. cit.*).

In 124 operations: maternal mortality, 12; fœtal mortality, 32.

But these figures must be examined :

1. *Maternal Mortality*: We find twelve cases. But eight times, death was due to causes independent of the operation; pneumonia, paralysis of the heart, perforatio uteri, septicæmia of uterine origin.

The maternal mortality from symphyseotomy, therefore, presents only four cases, three of which are explained by insufficiency of antisepsis; the fourth by a manual of operation differing greatly from the one described above. This as to maternal mortality.

2. *Fœtal Mortality*: Thirty-two cases. These cases are thus divided: five children died before the operation, seven others succumbed to different causes, as vicious conformation, insufficient viability due to a too early delivery, syphilis, pneumonia, rupture of the cord.

Eleven of these children succumbed under the influence of tractions by the forceps, or under version resorted to *before symphyseotomy*. There remain therefore only nine deaths of children that are imputable to symphyseotomy, and of these nine, seven are imputable to *incomplete symphyseotomy*.

The numbers above are therefore not so very bad as they seem to be, and based on them we may conclude that the results of symphyseotomy are perfect—for the mother, as well as for the child—if the symphyseotomy is complete, if it is performed antiseptically, if the mother is not infected previously if the fœtus has not been killed or hurt by attempts at extraction before symphyseotomy.

There is another point that deserves to be considered. Should symphyseotomy be performed, if indications exist, upon a woman in labor, who has undergone suspicious contacts and is in danger of infection of uterine origin—the child being alive?

Let us examine what would happen in the case of not performing symphyseotomy, and in the case it is performed.

1. If symphyseotomy is not performed, the fœtus being unable to pass, it will have to be crushed. The mother, being in danger of infection, might recover or succumb.

2. If symphyseotomy is performed the child is extracted alive. Does the traumatism inflicted on the mother add much to the dangers she risks from her infection? The point is open to debate, and the question has not yet been decided.

Since the last meeting of the Obstetrical Society of France a woman has been brought into the service of Dr. Pinard who had undergone numerous contacts in the city. She had no fever. She had been in labor for three days. The amniotic liquid had offensive odor. Symphyseotomy was performed; ten days later the woman died from septicæmia.

It is the only unsuccessful case of the twenty-eight actual cases of the statistics of Dr. Pinard and his pupils. It is not sufficient, though, to close the debate in the negative.

This is what the practice of symphyseotomy, still so young, has furnished. The future will teach us who is right—those who at present argue to make of it an operation of choice reserved to a few cases, practicable only in large obstetrical clinics, or those who regard it as a necessary operation, an operation of urgency, practicable and possible in all places. We hold with the latter.

As far as being an operation of urgency, symphyseotomy, when it is indicated, leaves no choice but between basiotripsy on the living child, the forceps at the superior strait or the version, performed too often at the cost of the life of the fœtus.

If the difficulties of symphyseotomy as an operation of urgency are compared with the forceps at the superior strait and version in a narrowed pelvis, the very considerable difficulties connected with these two latter operations must have been overlooked. There exists not one accoucheur who has not

been called upon to set forth what results these two operations could have furnished in less experienced hands.

To perform symphyseotomy it is, as for any other operation, necessary to have had practice—to have practised it—this is indispensable. As to the material of operation, improvisation is possible. An assistant is needed for the chloroform, the assistants holding the legs being passive, can be taken anywhere, but must be strictly supervised; antiseptic substances should be always handy to any one who at present practises medicine; the instruments—straight and buttoned bistoury, forcép-pressure pinchers, sound—are all in a case. Plaster for the application of a plaster bandage can be found anywhere. The symphyseotomy being performed, the difficulties at the level of the superior strait disappear for the extraction.

“You should have the fact well before your eyes,” has said Dr. Pinard, “that it is simpler to open a pelvis than to open a trachea, or to operate a strangulated hernia, which every practitioner ought to know how to do.”

“Study symphyseotomy—the technique of the operation which I have described in my lectures seems to me the simplest and the easiest to follow. Operate thus, and you shall meet with no complications. Do not fear these latter to the extent of attempting previously the application of the murderous forceps.”

“For symphyseotomy has, besides, two reefs to avoid prior to showing itself in the fullness of its power. The previous infection of the mother, the previous wounds of the child.

“Avoid the one, do not produce the others; operate without fear under these conditions, and I think not to be mistaken myself, nor misleading you, when I say success is awaiting you.” (Dr. Pinard, *Société Obstétricale de France. Annales de Gynécologie*, 1893.)

We may conclude that the return to symphyseotomy has been a great progress, but that return was only made possible by antiseptics. If the practitioner desires to study or to learn how to perform symphyseotomy, he might perform that operation wherever it would appear advisable, as antiseptics is everywhere possible in the hands of him who desires to or knows how to use it.

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## Editorial Articles.

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### NATIONAL QUARANTINE.

Some months ago we published the draft of a bill increasing the powers of the Marine Hospital Service so as to include national quarantine. Recently a bill was drawn up by a committee of the New York Academy of Medicine, copies of which have been widely distributed, which seems to be the most comprehensive measure yet devised for the purpose of providing uniform quarantine regulations of a high standard for all parts of the United States, while securing to each large district of the Union adequate representation on the body that prescribes and enforces the regulations. The bill establishing "a bureau of public health within the Treasury Department of the United States" will be presented during the current session of Congress, and our medical men and societies should, in our opinion, urge their respective Congressmen to exert themselves in its favor.

In older countries, where the medical profession has received more recognition than here, there is a central bureau for the administration of affairs pertaining to the public health. The very idea of centralization is repugnant to many persons



who fail to perceive the greater efficiency of a service administered uniformly from a central head, and who see, or imagine they see, great evils flowing from the abuse of a tremendous power. It was most unfortunate that our late unlamented National Board of Health failed to recognize this fear of a large number of intelligent citizens; and the errors into which that board fell set back for a number of years the consummation of the dream of our most advanced and patriotic medical men. The bill drawn up by the New York Academy of Medicine was presented in its final shape only after consultation with prominent and public-spirited sanitarians all over the country. It may be said to be the fruit of all the sanitary experience of the country, embodying, as it does, the valuable features preserved from previous efforts in the same line, together with all the useful suggestions possible for adapting the workings of the bureau to our present sanitary needs. The full text of the bill is given elsewhere in this number of *THE JOURNAL*. One little sentence in Sec. 21 is worthy of special notice. It reads:

\* \* \* “and all rules and regulations made by the commission, and approved by the Secretary of the Treasury, shall operate uniformly and in no manner discriminate against any port or place.” There has always been a fear, in the gulf ports, that any central body would be susceptible to unworthy influences on the part of eastern ports. With the above mentioned provision to control the commission there need be no ground for such an apprehension. The passage of this bill would be a great step in the way of governmental recognition of medical matters, and we sincerely hope to see it passed, all the more so because the present powers of the Louisiana State Board of Health will not be disturbed.

## Abstracts, Extracts and Annotations.

### MEDICINE.

#### REMARKS ON FERMENTATIVE DYSPEPSIA.

By AUSTIN FLINT, M. D., LL. D., Professor of Physiology in the Bellevue Hospital Medical College, New York; Assisting Physician to Bellevue Hospital.

There are few diseases that present greater difficulties in the way of treatment and of permanent cure than what may be termed functional dyspepsia. In using the term functional dyspepsia I wish to be understood as meaning difficulty in digestion unconnected with ascertainable lesions of the digestive organs or of the alimentary tract, and not complicated with serious organic disease of other parts. While certain alterations may exist in the digestive organs, they are temporary, at least when the disease is not of long standing, and they must disappear in case of permanent relief. Almost all cases of dyspepsia of long standing are accompanied with more or less mental and moral disturbance, even though the periods of pain or discomfort may not be very long.

These nervous symptoms I do not propose to describe. They are protean in their character and manifestations, often relieved or mitigated by moral influences, such as change of scene or occupation, without much actual improvement in digestion. They almost invariably disappear as the normal digestive processes are restored. The long-standing "peripatetic" cases, with which physicians are unhappily too familiar, have been prominent among the unsatisfactory and discouraging experiences in general practice. Such cases usually are treated with but little expectation of permanent relief, and the most satisfactory result usually to be expected has been temporary improvement by means of palliatives, and a life rendered more or less miserable by a real or fancied necessity of constant attention to diet and general hygiene. It is in precisely such cases as these—unconnected with gross excesses or indiscretions in diet, and especially with the abuse of alcoholic beverages or narcotics—that modern medicinal therapeutics seems likely to produce such results as will render the treatment of fermentative dyspepsia of a purely functional character almost as certain and satisfactory as that of any acute disorder.

Flatulence is a very common attendant of functional dyspepsia. This condition may be more or less pronounced, and

there are great variations in the degree to which it is tolerated by different individuals. The discomfort and distress which accompany flatulence may amount to actual pain, which is sometimes, though rarely, intense; but when pain is habitual remedies directed to its prompt relief are merely palliative and usually do actual harm in the end. This remark especially applicable to all form of opiates, whether administered by the mouth or by subcutaneous injection. Contrary to the popular and, to a certain extent, the professional notion, I must apply this remark as well to the various pepsins, pancreatins *et id genus omne*, so commonly prescribed.

I have fairly full records and histories of a score or more of what may be called peripatetic cases of dyspepsia of several years' standing which have been subjected to nearly every variety of routine treatment, and these constitute but a small proportion of the cases that have come under my observation. I have yet to see, however, a single case in which any of the pepsins, pancreatins, or the physiologically absurd combinations of pepsin and pancreatin logically seemed to have produced any benefit, even of a temporary character. In certain cases in which they have appeared to act favorably as palliatives, careful inquiry has almost invariably shown an attention to diet and hygiene during their administration to which their apparently favorable effects have been fairly attributable. If this statement is even in a measure correct, it is most important that the fact should be recognized and appreciated, in view of the gratuitous instruction in the physiology of digestion and the pathology and therapeutics of dyspepsia offered so freely to physicians in the advertising pages of medical journals and in circulars by pharmaceutical manufacturers and even meat packers, and indiscreetly endorsed by members of the profession. Of late years my opinions have not permitted me to extend my experience in pepsins, etc.; but the histories of previous treatment in cases that have come under my observation, as well as physiological considerations, have convinced me that agents intended to supply an assumed deficiency of digestive enzymes are absolutely inert. I do not wish, however, to be understood as including in this condemnation the use of foods partially digested, or peptonized, undoubtedly valuable in many cases.

This subject to my mind, is so important that it seems proper to give my reasons for the decided opinion just expressed:

Digestion is one of the most complex of the physiological processes, and even now it is but imperfectly understood. Concerning certain facts, however, there can be no doubt.

It is well known to physiologists that a combined as well as successive action of the digestive fluids is essential to normal digestions. If the food is imperfectly masticated and insalivated, especially the latter, digestion becomes difficult. It is essential not only that the saliva should exert its own chemical and mechanical action, but that it should become gradually mixed with the secretions of the stomach, and that the gastric juice should as gradually be mixed with the food, the pepsinogen being transformed as it is discharged from the peptic cells into pepsin by the action of the hydrochloric acid produced by its peculiar cells. Assuming even that a few grains of what is called pepsin extracted from a pig's stomach and dried will have the same action in the human stomach that it has on minced food in a test tube, it is by no means certain that the discomfort and distress which are sometimes observed soon after taking food are due to deficiency of pepsin. As a rule, these symptoms are produced by the undue formation of gases, which artificial pepsin is not known to have any power to control. Normally the gases of the stomach do not exist in large quantity, and probably are derived mainly from the air which is incorporated with the food in mastication, an evidence of which is the presence of a considerable proportion of oxygen, which is not found in other portions of the alimentary tract. When gas is formed in the stomach, it is probably due to the action of micro-organisms, and these organized ferments take no part in digestion.

It is almost inconceivable that artificially extracted digestive enzymes can find their way into the small intestine in such a condition as to exert any action in digestion. The so-called pancreatin has no existence, the enzymes produced by the pancreas being trypsin, amylase, and steapsin. Intestinal digestion, also, is an alkaline process; and it has been abundantly shown by experiment that it can not go on with sufficient efficiency to support life in the absence of the action of the intestinal juice, the composition of which is unknown, and of the bile, the action of which has never been clearly understood and defined. Life, indeed, can not be maintained in the absence of either the bile or the intestinal juice alone.

Gases are much more abundant in the small intestine than in the stomach; and a certain quantity of gas is essential to the proper movements of the alimentary mass under intestinal peristaltic action. This composition of the gas in the small intestine—consisting, as it does, of carbon dioxide, pure hydrogen, and nitrogen in variable proportions—shows that it is in greatest part derived from the food, even if it be admitted that a certain proportion of the carbon dioxide may be evolved from



the blood. When gases are produced in excessive quantity in the small intestine, the action of micro-organisms is probably involved. It is not pretended that the so-called pancreatin has any influence in modifying or restraining this action.

In cases of functional dyspepsia it is by no means invariable that the body is badly nourished, unless the diet is greatly restricted. Many dyspeptics have an appearance of perfect health. While digestion may be slow, labored, and attended with great discomfort and even actual pain, the processes may be efficient and complete, and general nutrition may be perfect. Although such cases are exceptional, they are not uncommon. It is seldom observed, however, that a strict diet called, perhaps, antidyspeptic secures immunity against dyspepsia, although it is desirable and useful to avoid notoriously indigestible articles and those which, in individual cases, have been found to occasion distress.

In my opinion it is seldom the case that undue fermentation in the alimentary mass begins in the intestinal canal. It usually occurs first in the stomach and is continued in the small intestine. In the exceptional cases in which its origin is intestinal there is usually a deficiency of bile, and more or less active diarrhœa is present. In the great majority of cases, however, constipation is fully as common as diarrhœa, and sometimes the bowels are regular. When there is no gastric flatulence, when the digestive discomfort begins two hours after the taking of food, and when diarrhœa with flatus is present, it is probable that the fermentation is purely intestinal, and that it continues to an abnormal degree after the residue of food has passed into the large intestine. In all cases it is important to regulate the action of the bowels, either by laxatives or by agents that have the opposite effect. I have been lately in the habit of using Villacabras water as a laxative when constipation is obstinate. By carefully regulating the dose of this water according to the effects observed in individual cases, I have found it act most satisfactorily. Using it for any considerable time, the dose, as well as the frequency of its administration, may be diminished rather than increased, and the dejections are usually easy and painless. I give before breakfast enough to produce two or three evacuations; and for two or three days after a daily movement follows. It may then be repeated if necessary and given as required. A very important point in the treatment of dyspepsia with constipation is to see that the patient acquires the habit of soliciting, without great effort, a movement of the bowels every morning at a fixed hour, resisting a desire for defecation at other times. Attention to this

will sometimes regulate the bowels without the use of laxatives. In cases of undue looseness of the bowels, the remedies administered with the object of restricting fermentation will often suffice. Opium or its derivatives should never be used unless imperatively demanded by intense pain.

My main object in writing this paper is to call attention to the value of certain modern additions to the *materia medica* that act as antifermentatives. For many years the late Dr. Austin Flint was in the habit of using salicin in doses of about ten grains before each meal, often with remarkable success. I have used this remedy very largely and have frequently found it of great benefit, but I have lately found other agents which seemed to be much more efficient.

In nearly every case of functional dyspepsia that has come under my observation within the last ten months I have begun the treatment by giving five grains of bismuth subgallate, either before or after each meal. In some cases it seems to act more favorably when given before meals, and in others its action is better if taken after eating. In studying my records and memoranda of cases I find that the treatment by salicin has often been unsatisfactory. The proportion of unsuccessful cases was about 25 per cent., but in some cases the effects of this remedy given alone have been remarkable.

I have full records of one case of severe dyspepsia of ten years' standing that was completely relieved in a week without any return, now for more than a year. The bismuth subgallate, however, is almost a specific in cases of purely functional dyspepsia with flatulence. While I have full records of a few obstinate cases, the histories of most are merely short memoranda, and of many I have no records. Since December 8, 1892, when I began to use the bismuth subgallate, I have noted only two cases in which it gave no relief, there being no evidence of organic disease. Both of these were in hysterical women. In both I used salicin and salol; and in one, salol, salicin, naphthalin and aristol. These were cases of long standing which had resisted treatment of every kind, and they soon passed from under my observation.

I was led to use bismuth subgallate by seeing it recommended as a valuable remedy in the diarrhoea of children, acting as a disinfectant. I first employed it in a case of dyspepsia of eleven years' standing which is so remarkable in some of its characters that I shall give further on an account of it somewhat in detail. Its action in this case was so favorable that I began to prescribe it very largely, almost invariably with remarkably satisfactory results, and I continue to use it almost daily. I have no records of many of my cases, but

have been careful to note the few instances in which I have been disappointed in its effects, with certain cases in which its favorable action has been truly remarkable. I have already mentioned the two cases in which it seemed to be of no benefit. The following are a few of the cases of remarkably prompt and favorable action: A case of alcoholism of twenty years' standing, with habitual dyspepsia for the last five or six years; bismuth subgallate gave almost instant relief; the flatulence and distress disappeared in twenty-four hours, and did not return, except in a very mild degree, when they were usually relieved by a single dose. While under other treatment for alcoholism, this condition was relieved. The patient has taken no alcohol for several weeks and has no craving for it. A case of dyspepsia of four years' standing, with a chronic diarrhœa, was entirely relieved in five days by the use of the bismuth subgallate alone. A case of dyspepsia of more than thirty years' standing was promptly relieved by bismuth subgallate alone. In this case, every few weeks the trouble returns and is relieved by two or three doses. I am indeed no longer surprised at results from the use of this remedy which first seemed to me remarkable; and now I confidently expect prompt and favorable action. I have been in the habit of prescribing it in capsules containing five grains each, but lately have had it prepared in the form of tablets. In this latter form it is more convenient and seems to act more favorably.—*N. Y. Med. Journal.*

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#### THE TREATMENT OF MEASLES BY EUCALYPTUS INUNCTION.

The treatment of scarlatina by inunction with certain eucalyptus preparations has been strenuously advocated of late, and it has been urged that the same method is also successful in combating the other exanthemata. It was therefore decided to make a trial of this treatment in the course of a recent epidemic of measles. The type of the disease then prevalent in the neighborhood was rather above the average in severity; while the coryzal symptoms were relatively slight, the eruption was abundant, persistent, and unusually early in its appearance; in most of the cases a distinct and unmistakable rash was visible on the mucous membrane lining the cheek, and on the fauces and palate, for from twelve to thirty hours before any eruption was perceptible on the skin, and sometimes even before the development of any coryza. One result of this condition was the ability to make a definite diagnosis in individual cases much earlier than usual.

About the middle of the epidemic, and when it was in full swing, we decided to treat all the cases in one ward, as it became filled up by admissions, with *Oleusaban*—the special preparation of eucalyptus recommended for this purpose. The cases were taken just as they came in; there was thus no attempt at “selection,” and at the time of their admission there was no obvious distinction between these cases and those which preceded or succeeded them. The subsequent course of events is best given in the words of my colleague, Dr. Horace Savory, to whom I am indebted for a careful record of the cases:

“The epidemic totaled seventy-three cases, and the ‘oleusaban’ treatment was carried out in five of these. The patients occupied a ward of five beds, and were in no way selected cases. Inunction was begun directly they came under observation, the oleusaban being rubbed over the body night and morning for three days, and subsequently once a day for the first week. The eucalyptus emulsion was given internally, some of the fluid was placed in saucers about the room, and when cough was troublesome eucalyptus inhalations were given.

“The immediate effect of the treatment appeared to be to produce great drowsiness; all five patients slept almost constantly, being roused with some difficulty to take their food, and remaining awake only just long enough to consume it. There was very little coughing in this ward for the first three days; the patients were not markedly thirsty, and they complained of but little discomfort of any kind.

“Three patients had considerable (muco-purulent) conjunctivitis, and all five had tongues thickly coated with white fur, thus contrasting markedly with the tongues of others under different treatment.

“In one case the rash was coming out when treatment commenced; but in the other four its appearance seemed to be delayed, the temperature remaining at from 102 deg. F. to 104 deg. F. for four or five days before the appearance of the eruption on the face and body. When it did appear, the rash was very copious, much raised, and of a notably dusky tint.

“During the fourth, fifth and sixth days four of the patients developed laryngeal and bronchial catarrh, with complete loss of voice in two days; and one developed a severe attack of pneumonia affecting both bases in patches (the only case in the whole epidemic of pneumonia occurring as a direct complication).

“Convalescence was in all five cases more tardy than usual, and desquamation much more profuse. In the case of the patient in whom the rash was coming out when treatment



commenced, peeling was not very marked; but in the other four cases, face, hands, legs and feet desquamated freely and for a lengthy period. In one case in particular, at the end of six weeks the desquamation of the palms might readily have been mistaken for scarlet fever."

This trial of the "oleusaban" treatment was made in only a small number of cases; but its results, apparently marked of their kind, did not encourage us to extend its application. The usual drowsiness and general dulling of sensibility, the abnormally furrowed tongue, the relatively prolonged pyrexia, and the delayed eruption, together with the pronounced and dusky color of this latter, were some of the obvious symptoms which seemed to indicate an undue retention of morbid products, rather than that speedy and complete destruction of the infective poison which the advocates of this treatment claim as one of its special advantages. The exaggerated degree to which the mucous membranes and the skin were implicated in the morbid process is also notable. It should be stated that albuminuria was recorded in only one of the five cases; it was slight and transient, not more than might be adequately explained by the concurrent pyrexia. I regret that we did not attempt to determine, by a more detailed examination of the urine in each of these cases, whether, and to what extent, there was interference with renal elimination.

The remaining sixty-eight cases presented no features of special interest. They were all treated with either a simple saline mixture or with this together with 10 grs. of benzoate of sodium to the dose; the result was a further corroboration of a previous conclusion that this latter salt does exert some influence in reducing the extent and the duration of the eruption, in relieving symptoms and preventing the development of complications, and in hastening convalescence.—*Dr. C. E. Shelley, in the Practitioner.*

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## Medical Items.

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### PHILADELPHIA ACADEMY OF SURGERY.

The Samuel D. Gross prize, the quinquennial prize of \$1000 under the will of the late Samuel D. Gross, M. D., will be awarded January 1, 1895. The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding 150

printed pages, octavo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the successful competitor, who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to Dr. J. Ewing Mears, 1429 Walnut street, Philadelphia, before January 1, 1895. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

The undersigned chairman of the American National Committee of the International Medical Congress, which was postponed from September 24 on account of cholera prevailing in Italy, has been notified by the secretary general that the Congress will be held at Rome from March 29 to April 5, 1894. Instructions and documents relating to the journey, etc., are promised for the near future.

Yours very respectfully,

A. JACOBI, M. D.

110 W. 34th Street, New York.

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DIED IN MILTON, FLA., AUGUST 14, 1893.

DR. WM. JUDGE, AGED 73 YEARS.

This highly respected and honored physician, after years of faithful service to mankind, has received his last summons to appear before the throne of a heavenly tribunal to be rewarded for the many noble acts to those who remain, and feel most keenly the loss of physician and friend.

The confidence of his people went further than the recognition of his scientific ability as a physician, and he was honored by being elected to the Florida Legislature as a representative from Santa Rosa county in 1874, and subsequently was returned to the State Senate during the years of 1874 and 1884, to look after the interests of their county. A loss to the State as an upright and intelligent citizen, and mourned by an affectionate and confiding clientele.

FRIEND.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF  
PHILADELPHIA.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about \$180, will be made on July 14, 1894, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1894. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope, having on its outside the motto of the paper and within it the name and address of the author. It is a condition of competition that the successful essay, or a copy of it, shall remain in possession of the college; other essays will be returned upon application within three months after the award.

CHARLES W. DULLES, *Secretary*.

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PROGRAMME OF THE TRI-PARISH MEDICAL SOCIETY.

ARCADIA, La., October, 18, 1893.—The regular monthly meeting convenes with Gibsland the second Tuesday in November. Dr. Poole, slow fever, diagnosis and best treatment; Dr. Simmons, humorous side of medicine; Dr. Ragan, Keeley cure; Drs. Day and Willis, septicemia, prevention and cure; Dr. Atkinson, best treatment for typhoid fever; Dr. DeSeay, endometritis, diagnosis and treatment. All members of the medical profession are requested to be present.

O. M. PATTERSON, *Secretary*.

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A BILL TO ESTABLISH A BUREAU OF PUBLIC HEALTH WITHIN  
THE TREASURY DEPARTMENT OF THE UNITED STATES.

Prepared by the National Quarantine Committee of the New York Academy of Medicine.

THE BILL OF THE NATIONAL QUARANTINE COMMITTEE OF THE  
NEW YORK ACADEMY OF MEDICINE.

The following is the final draft of the bill of the Committee on Quarantine of the New York Academy of Medicine, which is to be presented to Congress during its coming session:

A bill to establish within the Treasury Department a Bureau of Public Health.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:*

#### CREATING SANITARY DISTRICTS.

SECTION 1. That for the purposes of this act the States and Territories of the United States be, and are hereby, grouped into districts, to be known as "The Sanitary Districts of the United States," as follows:

*The Northern Sanitary District* shall include the States of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, Wisconsin.

*The Northeastern Sanitary District* shall include the States of Connecticut, Massachusetts, Maine, New Hampshire, New York, Rhode Island, Vermont.

*The Northwestern Sanitary District* shall include the States of Idaho, Montana, North Dakota, Oregon, Washington, and the Territory of Alaska.

*The Eastern Sanitary District* shall include the States of Delaware, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia, and the District of Columbia.

*The Western Sanitary District* shall include the States of California, Nevada, and the Territories of Arizona and Utah.

*The Southern Sanitary District* shall include the States of Arkansas, Alabama, Kentucky, Louisiana, Missouri, Mississippi, Tennessee.

*The Southeastern Sanitary District* shall include the States of Florida, Georgia, North Carolina, South Carolina.

*The Southwestern Sanitary District* shall include the State of Texas and the Territories of Indian Territory, New Mexico and Oklahoma.

*The Central Sanitary District* shall include the States of Colorado, Kansas, Nebraska, South Dakota, Wyoming.

SEC. 2. That there shall be established in the Treasury Department, under the direction and supervision of the Secretary thereof, a Bureau of Public Health, to consist of a commission of fifteen, of whom eleven shall be appointed by the President, by and with the advice and consent of the Senate, as follows, viz.: One Medical Commissioner from each of the "Sanitary Districts of the United States," provided in Section 1 of this act, and two commissioners at large; the compensation of the appointed commissioners, when actually engaged in the performance of their duties under this act, shall be ten dollars per diem and reasonable expenses. The other four members of the commission shall be the Surgeon General of the Army, the Surgeon General of the Navy, and the Supervising Surgeon-



general of the Marine Hospital Service, and an officer, learned in the law, detailed by the Attorney General from the Department of Justice ; these four members shall receive no compensation.

SEC. 3. That the members of the Commission shall meet at such time and place as may be designated by the Secretary of the Treasury, and organize by the election, from their own number, of a President who shall be one of the members at large, and who shall receive five dollars per diem, in addition to the ten dollars per diem provided in the last section, when actually engaged in the performance of his duties under this act. The other member-at-large shall be Vice President of the Commission, who shall perform the duties of President when the latter is unable to do so. The Commission may appoint a Secretary not one of its number, and fix his salary at a sum not exceeding three thousand dollars annually. The Commission shall thereafter meet annually, at Washington, on the first Tuesday of October, and at such other times and places as the President of the Commission, with the approval of the Secretary of the Treasury, may designate. At the first meeting of the Commission, the members appointed from sanitary districts shall be divided into three classes of three members each, and they shall determine by lot to which class each member shall belong ; the first class shall serve for one year, the second class for two years, and the third class for three years ; the two members at large shall serve, one for three years and the other for six years, and they shall determine by lot their respective terms of service ; thereafter the terms of service of each member appointed from a sanitary district shall be for three years, and each member appointed at large shall be for six years ; all appointments to fill vacancies shall be for the unexpired term.

SEC. 4. That there shall be an Executive Committee of the Commission, consisting of its President, the Surgeon General of the Army, the Surgeon General of the Navy, and the Supervising Surgeon General of the Marine Hospital Service, and the officer detailed by the Attorney General. The Commission shall from time to time prescribe the duties of the Executive Committee, and may make all needful rules and regulations for its own control and for the guidance and discipline of all its officers and employes, and shall establish all rules and regulations for the government of national sanitation in all of its foreign and interstate relations, and special departments in the enforcement of the provisions of this act.

SEC. 5. That when, in the opinion of the President of the Commission, the interest of the public health would be promoted by a conference of the Commission with the State

Boards of Health of the several States, or of any sanitary district or districts, he is hereby authorized to invite, with the approval of the Secretary of the Treasury, said State Boards of Health, or such number thereof as he may designate, each to delegate one of its members to meet the Commission in conference at such time and place as he may appoint; the President of the Commission shall be the President, and the Secretary of the Commission shall be the Secretary of any such conference; the delegate in attendance upon the conference from each State Board of Health shall be entitled to receive reasonable compensation for expenses for a session not exceeding three days, to be paid on vouchers provided by the Secretary of the Treasury.

SEC. 6. That the duties of the Bureau of Public Health shall be to collect and diffuse information upon all matters affecting the public health; to advise the several departments of the government, the executives of the several States, and all health authorities on all questions submitted to it, or whenever in the opinion of the bureau such advice may tend to the preservation and improvement of the public health; to secure the best sanitary condition of vessels from foreign ports; to prevent the introduction of contagious and infectious diseases into the United States, and their spread from one State into another; to co-operate with and aid State and municipal health authorities in the execution and enforcement of rules and regulations to suppress contagious and infectious diseases; and, in general, to be the medium through which the general government shall adopt such measures and take such action as will most effectually protect and promote the health of the people of the United States.

SEC. 7. That the Bureau of Public Health may, with the approval of the Secretary of the Treasury, make investigations, both in the United States and, if necessary, in foreign countries, into the nature, origin, and prevention of contagious, epidemic, and other diseases, as well as the causes and conditions of particular outbreaks of disease in the United States, and may employ such experts and for such time and in such manner as the exigencies of the service may require. When requested by the Bureau of Public Health, and when the same can be done without prejudice to the public service, the President may detail officers from the several departments of the Government for temporary duty to act under the direction of said Bureau, to carry out the provisions of this act; and such officers shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties.

SEC. 8. That as soon as practicable after this act shall take effect the Commissioners appointed from the sanitary districts shall each in his respective district examine all the means and measures employed by State, municipal, and other health authorities to prevent the introduction of contagious and infectious diseases into the United States, and their spread from one State or Territory into another, and report the fact to the Bureau of Public Health, and the Commission shall embody these facts in a report to the Secretary of the Treasury, who shall transmit the same to Congress with such recommendations as he may deem important. Thereafter, each Commissioner shall annually, on or before October 1, report upon the measures employed, with the result, in his sanitary district to prevent the introduction, origin, and spread of contagious and infectious diseases, and the Commission shall embody the facts in its annual report to the Secretary of the Treasury.

SEC. 9. That it shall also be the duty of the Bureau of Public Health to obtain information of the sanitary condition of foreign ports and places from which contagious and infectious diseases are or may be imported into the United States, and to this end the consular officers of the United States at such ports and places as shall be designated by the Bureau of Public Health shall make to said Bureau weekly reports of the sanitary condition of the ports and places at which they are respectively stationed, according to such forms as said Bureau may prescribe; and the Bureau of Public Health shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States; and shall also, as far as it may be able, by means of the voluntary co-operation of State and municipal authorities, of public associations, and private persons, procure information relating to the climatic and other conditions affecting the public health, and the existence of epidemic, endemic, and other diseases; also statistics relating to marriages, births and deaths.

SEC. 10. That the Commission shall prepare, publish, and transmit to the medical officers of the Army, Navy and the Marine Hospital Service, to collectors of customs, and to State and municipal health officers and authorities, weekly abstracts of the consular sanitary reports and other pertinent information received by the Bureau of Public Health.

SEC. 11. That whenever any department of Government or the Executive of any State or Territory, or the authorities of the District of Columbia, or the health authorities of any



State or municipality, shall request information from the Bureau of Public Health in regard to any matter pertaining to the protection or promotion of the public health, said Bureau shall promptly furnish such information as it may have on record, together with any necessary or pertinent advice; and whenever information shall be received by the Bureau which the interests of public health require should be promptly communicated to any department of the Government, or to any State or municipal officer, such information shall be forthwith furnished to the respective department or officer.

SEC. 12. That the Commission shall take such action by correspondence or conference as will tend most effectually to secure the co-operation of State, municipal and local boards of health in establishing and maintaining an efficient and accurate system of notification of the existence and progress of contagious and infectious diseases in the United States, and said Commission shall also by co-operation with the proper health authorities of foreign nationalities and municipalities endeavor to extend to the United States a reliable system of international notification of the existence and progress of such diseases as cholera, yellow fever, typhus fever, and small-pox.

SEC. 13. That the Bureau of Public Health shall make such rules and regulations, with the approval of the Secretary of the Treasury, as are necessary to be observed by vessels at the port of departure and on the voyage, where such vessels sail from any foreign port or place, to secure the best sanitary condition of such vessel, her cargo, passengers and crew, which shall be published and communicated to and enforced by the consular officers of the United States. None of the penalties herein imposed shall attach to any vessel, or owner or officer thereof, until a copy of this act, with the rules and regulations made in pursuance thereof, has been posted up in the office of the consul or other consular officer of the United States for ten days, in the port from which said vessel sailed; and the certificate of such consul or consular officer over his official signature shall be competent evidence of such posting in any court of the United States.

SEC. 14. That the Bureau of Public Health shall, with the approval of the Secretary of the Treasury, from time to time issue to the consular officers of the United States, and to the medical officers serving at any foreign port, and otherwise make publicly known, the rules and regulations made by it, and approved by the Secretary of the Treasury, to be used and complied with by vessels in foreign ports for securing the best sanitary condition of such vessels, their cargoes, passengers and crew, before their departure for any port in the United



States, and in the course of the voyage, and all such other rules and regulations as shall be observed in the inspection of the same on the arrival thereof at any quarantine station at the port of destination, and for the disinfection and isolation of the same, and the treatment of cargo and persons on board, so as to prevent the introduction of cholera, yellow fever, or other contagious or infectious diseases.

SEC. 15. That it shall be unlawful for any merchant ship or other vessel from any foreign port or place to enter any port of the United States except in accordance with the provisions of this act, and with such rules and regulations of State and municipal health authorities as may be made in pursuance of, or consistent with, this act; and any such vessel which shall enter, or attempt to enter, a port of the United States in violation thereof shall forfeit to the United States a sum, to be awarded at the discretion of the court, not exceeding \$5000, which shall be a lien upon said vessel, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 16. That any vessels at any foreign port clearing for any port or place in the United States shall be required to obtain from the consul, vice consul, or other consular officer of the United States at port of departure, or from the medical officer where such officer has been detailed for that purpose, a bill of health, in duplicate, in the form prescribed by the Secretary of the Treasury, setting forth the sanitary history and condition of said vessel, and that it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers and crew; and said consular or medical officer is required, before granting such duplicate bill of health, to be satisfied that the matters and things stated therein are true; and for his services in that behalf he shall be entitled to demand and receive such fees as shall by lawful regulation be allowed, to be accounted for as required in other cases.

The President, in his discretion, is authorized to detail any medical officer of the Government to serve in the office of the consul at any foreign port for the purpose of furnishing information and making the inspection and giving the bills of health hereinbefore mentioned. Any vessel clearing and sailing from any such port without such bill of health, and entering any port

of the United States, shall forfeit to the United States not more than \$5000, the amount to be determined by the court, which shall be a lien on the same, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States district attorney for such district shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 17. That it shall not be lawful for any vessel to enter any port of the United States to discharge its cargo, or land its passengers, except upon a certificate of the health officer at such quarantine station certifying that said rules and regulations have in all respects been observed and complied with, as well on his part as on the part of the said vessel and its master, in respect to the same and to its cargo, passengers and crew; and the master of every such vessel shall produce and deliver to the collector of customs at said port of entry, together with the other papers of the vessel, the said bills of health required to be obtained at the port of departure, and the certificate herein required to be obtained from the health officer at the port of entry; and that the bills of health herein prescribed shall be considered as part of the ship's papers, and when duly certified to by the proper consular or other officer of the United States, over his official signature and seal, shall be accepted as evidence of the statements therein contained in any court of the United States.

SEC. 18. That the Commission, with the approval of the Secretary of the Treasury, shall have authority to forbid entry of vessels from ports known or suspected to be infected with cholera, yellow fever, small-pox, or other declared quarantinable disease into all minor approaches to a port of entry or into any inlet or place within the jurisdiction of the United States not provided with a complete quarantine plant, in order to compel such vessels to be subjected to maritime sanitation at the quarantine station equipped for that purpose and commanding the scope of region in question.

SEC. 19. That on the arrival of an infected vessel at any port not provided with proper facilities for treatment of the same, the Commission may remand said vessel, at its own expense, to the nearest national or other quarantine station where accommodations and appliances are provided for the necessary disinfection and treatment of the vessel, passengers and cargo; and after treatment of any infected vessel at a national quarantine station, and after a certificate shall have been given by the United States quarantine officer at said station that the vessel,

cargo and passengers are each and all free from infectious disease, or danger of conveying the same, said vessel shall be admitted to entry to any port of the United States named within the certificate. But at any ports where sufficient quarantine provision has been made by State or local authorities, the Commission may direct vessels bound for said ports to undergo quarantine at said State or local station.

SEC. 20. That when cholera or yellow fever shall be ascertained by the Bureau to exist in any port or place within any one of the United States or Territories, or the District of Columbia, in such form as threatens its spread to other ports and places within other States or Territories or the District of Columbia, by means of vessels and vehicles engaged in the transportation of goods or passengers between two or more States, or States and Territories, and the District of Columbia, whether by land or water, the Commission is authorized to adopt such rules and regulations with the approval of the Secretary of the Treasury, as in its judgment may be necessary in order to prevent the spread thereof from one State or Territory to another or to the District of Columbia, and to employ such inspectors and other persons as may be necessary for the purpose aforesaid; the Commission may select suitable localities for establishing stations on rivers and other lines of interstate commerce and travel by railroads, and may cause to be erected necessary temporary buildings for the disinfection of passengers, baggage, cargoes, vessels and vehicles, and may enforce such rules and regulations relating thereto as may have been prescribed therefor; it shall be lawful for the Commission to confer upon any local health officer or health board within or near the locality where his or its authority is exercised, power also to enforce the provisions of this act and any rules and regulations made in pursuance thereof, and any person who shall knowingly disobey or violate any order, rule or regulation made pursuant to the authority herein conferred shall be deemed guilty of a misdemeanor, punishable by a fine of not less than \$500 and by imprisonment for a period of not less than one year.

SEC. 21. That the Commission shall, under the direction of the Secretary of the Treasury, co-operate with and aid State and municipal health authorities in the execution and enforcement of the rules and regulations of such authorities, and in the execution and enforcement of the rules and regulations made by the Commission and approved by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, and into one State or Territory or the District of Columbia



from another State or Territory or the District of Columbia; and all rules and regulations made by the Commission and approved by the Secretary of the Treasury shall operate uniformly and in no manner discriminate against any port or place; and at such ports and places within the United States as have no quarantine regulations under State or municipal authority, where such regulations are, in the opinion of the Commission, necessary to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and at such ports and places within the United States where quarantine regulations exist under the authority of the State or municipality which, in the opinion of the Commission, are not sufficient to prevent the introduction of such diseases into the United States, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, the Commission shall, if in its judgment it is necessary and proper, make such additional rules and regulations as are necessary to prevent the introduction of such diseases into the United States from foreign countries, or into one State or Territory or the District of Columbia from another State or Territory or the District of Columbia, and when said rules and regulations have been made they shall be promulgated by the Commission and enforced by the sanitary authorities of the States and municipalities, where the State or municipal health authorities will undertake to execute and enforce them; but if the State or municipal authorities shall fail or refuse to enforce said rules and regulations, the President shall execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose.

SEC. 22. That whenever the proper authorities of a State shall surrender to the United States the use of the buildings and disinfecting apparatus at a State quarantine station, the commission shall cause an examination thereof to be made by its own members or by a competent person, or persons, and if the said station, buildings and disinfecting apparatus be found adapted to the purposes of a quarantine, and the commission approve of their use as such, the Secretary of the Treasury shall be authorized to receive them and to pay a reasonable compensation to the State for their use.

SEC. 23. That all orders, rules and regulations of the Bureau of Public Health relating to sanitation in any branch of the public service, or to prevent the introduction of contagious



and infectious diseases into the United States, and their spread from one State or Territory into another State or Territory, or the District of Columbia, through or by means of any branch of the public service, the medical officers of such service shall execute such orders, rules and regulations, and to this end the Surgeon General of the Army shall perform all such duties in respect to the army, the Surgeon General of the Navy shall perform all such duties in respect to the navy, and the Surgeon General of the Marine Hospital Service shall perform all such duties in respect to quarantine and quarantine regulations which are provided by this act.

SEC. 24. That whenever the Commission shall certify to the President, and it shall appear to his satisfaction that, by reason of the existence of cholera or other infectious or contagious diseases in a foreign country, there is serious danger of the introduction of the same into the United States, and that notwithstanding the quarantine defence this danger is so increased by the introduction of persons or property from such country that a suspension of the right to introduce the same is demanded in the interest of the public health, the President shall have power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate, and for such period of time as he may deem necessary.

SEC. 25. That the Bureau of Public Health shall make an annual report of its operations to the Secretary of the Treasury, who shall transmit the same to Congress, with such recommendations as he may deem important to the public interest; and said report, if ordered to be printed by Congress, shall be done under the direction of the board, and that all mail matter of whatever class relative to the Bureau of Public Health and its duties, and addressed to its secretary and indorsed "Official Business, Bureau of Public Health," shall be transported free of postage; and if any person shall make use of any such indorsement to avoid the payment of postage on his private letter, package, or other matter in the mail, the person so offending shall be guilty of a misdemeanor, and be subject to a fine of five hundred dollars, to be prosecuted in any court of competent jurisdiction.

SEC. 26. That there shall be, and hereby is, appropriated, out of any moneys in the treasury not otherwise appropriated, the sum of one million dollars, to be expended, or so much of the same as may be necessary from time to time, under the direction of the President and according to his discretion, to meet emergencies arising in the execution of the provisions of this act.

SEC. 27. Repealing section.

# MORTUARY REPORT OF NEW ORLEANS. FOR OCTOBER, 1893.

CAUSE.	White.....	Colored...	Male.....	Female...	Adults...	Children.	Total.....
Fever, Yellow.....							16
“ Malarial (unclassified).....	15	1	13	3	15	1	
“ Intermittent.....			1			1	1
“ Remittent.....	1		4	1	4	1	5
“ Congestive.....	4	1		1	1		1
“ Typho.....		1	2		4		4
“ Typhoid or Enteric.....	3						
“ Puerperal.....			1		1		1
Leprosy.....	1						
Scarlatina.....							
Measles.....							
Diphtheria.....	10	1	8	3		11	11
Whooping Cough.....	4	1	4	1		5	5
Meningitis.....	6	2	4	4	6	2	8
Pneumonia.....	14	11	11	14	16	9	25
Bronchitis.....	12	4	6	10	5	11	16
Consumption.....	45	29	41	33	72	2	74
Cancer.....	12	5	6	11	17		17
Congestion of Brain.....	3		1	2	2	1	3
Bright's Disease (Nephritis).....	16	8	13	11	24		24
Diarrhœa (Enteritis).....	20	15	24	11	22	13	35
Cholera Infantum.....	8	1	6	3		9	9
Dysentery.....	5	4	8	1	8	1	9
Debility, General.....	2	3	3	2	5		5
“ Senile.....	21	9	9	21	30		30
“ Infantile.....	2	3	4	1		5	5
All other causes.....	163	82	153	92	153	92	245
TOTAL.....	367	182	322	227	385	164	549

Still-born Children—White, 22; colored, 18; total, 40.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 23.87; colored, 31.42; total, 25.93.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### PERITONEAL BANDS.

BY F. BYRON ROBINSON, PROFESSOR GYNECOLOGY IN CHICAGO POST GRADUATE SCHOOL.

The writer has carefully examined peritoneal bands in about 200 post mortems on dogs, and about 100 cases on humans. The dogs were killed or died from two days to six months after I had performed experimental intestinal operations on them. The humans were of all ages, sexes, and conditions. When peritonitis begins the peritoneum increases in its moisture. It grows darker in color from excess of blood. The epithelia or shingles that cover its surface lose their gloss and shine. The intestines become quiet and still. The oozing increases. The exuded fluid becomes more and more opaque as it increases. Its first opacity looks like starch in water. The gut soon begins to dilate from paralysis, and its surface applies itself against other distended bowels, until large bowel surfaces become tightly apposed to each other. The exudation now rapidly increases until it can be seen like a light snow storm, covering the uneven peritoneal surfaces and adjacent organs. It is quite abundant in the crevices where two bowel surfaces coapt. The peritonitis is hardly ever uniform, as local patches are much more intensely affected than others. Local bowel segments vary very much in their distention—some

few feet will be enormously distended, while even adjacent bowels will be severely contracted. The wide distention is advance paralysis of the gut-wall. The narrow contortion is the incipient stage of infection or irritation. The contracted bowel is very anæmic. The distended bowel is very congested. But the exudate progresses until the whole peritoneal surface is covered by a flaky, whitish mucoid layer. The crevices and depressions are filled first with the fluid exudate, and it especially accumulates where adjacent organs chafe and approximate each other. As the peritonitis acts mainly locally, some bowel segments distend enormously and are displaced. The segments are so large that they extend to any and all parts of the abdominal cavity.

In this way these different bowel segments become attached to distant organs. The sigmoid flexure may become adherent to the liver or stomach; the transverse colon may adhere to the uterus or tubes. I have observed the ascending colon and small intestines solidly fixed to the top of the uterus while performing laparotomy. Some of these adhesions are so firm and extensive that I have abandoned trying to undo all of them, tearing away only sufficient to complete the operation of removal of the pyosalpingses. In a short time the exudate *organizes*. It becomes living, active tissue. It forms new blood vessels, arteries and veins. It forms new lymphatics. New nerves arise in it, and all necessary tissue to sustain life. This white flaky fluid exudate then forms *new peritoneal bands*. Some call them false ligaments. The bands are of all shapes and conditions. In places the band is only recognized as an adhesion, coapting from an inch to several feet of gut. But out of this adhesion the *band* arises by a process of elongation. The adhesion may become a broad ribbon-like affair, or a long round cord, as the bowel peristalsis lengthens it out by dragging and tugging at it frequently every day. Also when the distended and paralyzed bowel contracts it will lengthen out the soft adhesive exudate, so that a band may reach from the liver to the rectum. A band may reach from the spleen to the cæcum. So that intestinal peristalsis and contraction of highly distended paralyzed bowels account for long *peritoneal bands*, as well as their attachments in various



regions of the abdominal cavity. The *omentum* forms the most attachments in peritonitis, and has therefore the most *bands* adherent to it. In post-operative peritonitis the bands are very differently attached than they are in cases of natural disease. In natural peritonitis it is almost always *local*. The local points of peritonitis are: (*a*) The ends of the Fallopian tubes, (*b*) the cæcum, (*c*) the pylorus, (*d*) hepatic flexure, (*e*) the sigmoid flexure, (*f*) the splenic flexure, and (*g*) the points of the hernial orifices. *A*, *b* and *g* are very significant points for peritonitis to begin, so that it is very frequent to observe bands radiating from these seven points of local peritonitis. The most frequent bands from local peritonitis are omental bands, because the edge of the omentum is involved in every local inflammation of the peritoneum, and when recovery occurs the omental bands are liable to lengthen out from intestinal contraction, from peristalsis and from visceral movements. The main omental bands arise from the pelvis (mouth of tubes) and the appendicular region. I have frequently noted omental bands in pelvic surgery. These omental pelvic bands are of all shapes and sizes. They are mostly fan-shaped at the point of attachment. They are often thin but wide, and are frequently like a man's hand with his fingers separated. Between these finger-like separations the intestines or knuckles of gut will protrude, and what has surprised me time and time again is why such slits and apertures through old bands did not strangulate the bowel. But by carefully studying such old slits one will see that the edges are round and smooth, and that the gut adjusted itself to the new aperture, when the exudate was soft and pliant. Of course we always look for bands at points in the peritoneum which are liable to infection—in short, weak points. The weakest point in woman is the mouth of the tubes. The weakest points in man are the hernial orifices. Those common to man's and woman's peritoneal weak points are (*a*) appendix (man 4, woman 1); (*b*) the pylorus; (*c*) hepatic flexure (gallstones, man 1, woman 4,) sigmoid flexure, and (*d*) splenic flexure. The formation of the band is due to organization of the exudate into nerves, arteries, veins, lymphatics, and tissue. The shape and length of the bands are due to (*a*) contraction of distended bowels, (*b*) peristalsis, (*c*) respiration, (*d*) visceral

movements, (*e*) posture. The condition which favors absorption of bands or exudates is not clearly known. I should say it is rapid recovery of health and quietude. I watched the absorption of peritoneal exudates for several years in dogs. The method which we followed was to operate on the intestines, and then note the rapidity of absorption by the time the dog was killed after the operation. The extent of peritoneal exudate could be noted by the condition of the peritoneum. For the first week in peritonitis the absorption was very variable, but in general quite slow. But from the second week in peritonitis, the absorption of exudates and bands was astonishingly rapid and vigorous—*i. e.*, after the shock of peritonitis was just over, absorption was rapid and vigorous. The absorption seemed to go on in geometrical ratio, after ten days of peritonitis. The mass of exudate was first absorbed. The long and wide bands were left until the last, and frequently only a solitary band would be left alone to tell the story of peritonitis. These bands were often as long as eighteen inches, and generally free in the middle. The middle of the band was the thinnest and looked to have very poor vitality or nourishment. It was often so thin in the middle that a very slight force would break it. Bands which were purely from organization of the exudate, and stretched from viscus to viscus, or from organ to abdominal wall, were not very numerous and did not withstand time's absorption, for their nourishment was not very vital. But bands which stretched from omentum to viscus or to abdominal wall were numerous, and wide and strong, for their nourishment was substantial. The omentum is very full of blood and its movements are not continuous and vigorous, giving time for solid growth in the bands, while bands which stretched from viscus to viscus, or from organ to abdominal wall, can not form so certainly, on account of the continuous peristalsis, a visceral motion, and therefore were not so numerous. What is the danger of such bands? They cause one-third of all intestinal obstruction. Seventy per cent. of all patients who have bowel obstruction have had peritonitis, and hence "bands." The bands obstruct the bowel chiefly in two ways:

1. The bowel glides to and fro under the band as an arch until some medicinal accident arises, and the gut becomes

strangulated. Some indigestible mass falls under the arch or band, and a little gas may accumulate to aid the process.

2. The band strangulates the bowel by snaring it. The bowel drops through a loop which the band may happen to form, and then peristalsis with medicinal accident furnishes the rest.

A third way that the band may strangulate the bowel is where a loop of intestine drops through a slit or aperture in the band. I have frequently seen bowels through the slits in the bands. In the same patient one can find in bands several slits, and through the slits will be found either a straight gut or knuckles of bowel. Such bands are chiefly attached to the omentum and pelvis or appendicular region.

Again, the band may be merely an adhesion having no length, but the adhesion may so kink the gut as to obstruct peristalsis and fecal currents.

Yet among scores of all kinds of kinks in dog and man I never saw obstruction arising from it.

Bands are very persistent. They will last thirty years, as autopsies prove. In dogs, six weeks after the peritonitic attack the chief absorption had occurred. After that a few large or small bands were left, but slowly absorbed. It is curious how the bowels can functionate with such numerous adhesions and bands. I have performed autopsies on women where it required two full hours to even separate the intestines from each other. Yet this condition had existed with the women a long time; such are nearly all tubercular. It has astounded the writer scores of times in autopsies how it was possible for life to proceed with so many bands in the peritoneal cavity, and why it was that the bowel was not caught, snared or strangulated with so many opportunities. But the peristalsis of the bowel allows the gut to wriggle into holes, under arches, around bands and through slits, and with a kind of unerring certainty it wriggles out again to safe quarters.

The *treatment* to prevent bands forming is especially REST and OPIUM. If one knew that a peritonitis was only going to be inflammatory, and not suppurative he could almost prevent the formations of bands by rest and opium. Both measures keep the intestines quiet. Exudation is checked.

But opium is a very dangerous remedy in peritonitis, as it masks symptoms and lulls both doctor and patient into non-interference. Opium postpones operations which alone will save when obstruction arises from bands. Peritoneal adhesions kill about one-third of all patients dying of bowel obstruction, and hence it behooves one to perform laparotomy at the right time, for if too late, it is just as bad, frequently, as no laparotomy.

There is no use to mince matters, for a surgeon will find intestinal surgery to be the most difficult of all surgery, and his first attempts at it will be very apt to end in failure, unless a happy patient arrives. I suggest that when the abdomen is opened for some obstruction that no *general* manipulation should be done. All manipulation should be special, definite and systematic.

*First find the cæcum.* Then a landmark is at hand. Now according to definite plans either follow the colon inch by inch to the rectum, or follow the small intestines inch by inch. Do not forget the weak points, viz: cæcum, hepatic and splenic flexures, sigmoid flexure and rectum. Examine the pylorus and gall-ducts. Do not handle the intestine any more than is possible. In picking the bowel up seize it gently, twelve to eighteen inches apart, and then inspect it. Seizing it frequently I found shocked dog and man. Do not allow the intestines to be exposed to the air more than can be helped. Have the assistant to do only what he is told, and keep his mouth shut. Be sure to look over every inch of gut, for several bands may exist. If possible carefully loosen all suspicious adhesions. If gangrene exists, it will be found necessary to do more than to simply cut the band. The old method was to make an artificial anus, but that leaves a patient in an uncomfortable condition or it leaves a secondary operation. Prompt decision must be made to do all with (1) a needle, (2) with plates, and (3) with a Murphy Button. Many still use the needle, and needle and thread, but during several years' work on intestinal experiments with dogs, I must say that results, with the needle, where resection is required, are both dangerous and unsatisfactory. Immediately fistula might early arise, and remotely cicatricial contraction was sure to arise. I will say as regards



my segmental rubber plate, that I nearly always had good immediate results. Also the raw hide plate did well, as well as the cartilage plate, but that sometimes absorbed too quickly and left a lateral fistula. Entirely the best results come from the segmental rubber plate. But I must also say that the remote results of the rubber plate was a cicatricial contraction, which I would fear in results. Now, lately Dr. Murphy has invented a "button" which, as time goes on, may be so made that it will do better work than the "plates." The button makes a small cicatrix. Therefore the button may be tried. But I would like to say that, whatever means may be used, few surgeons should expect to get good and perfect results from first cases on amateur work on the intestines. Experiment is the only royal road to skilful intestinal surgery.

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#### REPORT ON A CASE OF RETINITIS CIRCINATA.

BY BOLLING A. POPE, B. S., M. D., NEW ORLEANS.

When white plaques are found in the substance of the retina, it is usual to ascribe their presence to either Bright's disease or some affection of the central nervous system.

If not to either of these, then one is almost certain to consider it due to diabetes, leukæmia, or syphilis. Of course each of these conditions presents peculiarities of its own, but they present the feature in common, that white plaques of various shapes may be found in the retina.

The following case shows a type of chronic retinitis that certainly does not belong to any of these diseases. At least two such cases have been observed in the clinic of Professor Fuchs, in Vienna (one of which I had the opportunity of seeing through the kindness of Dr. Salzmann).

The name suggested was "*Retinitis circinata*."

Dr. B. A. Pope, Sr., of Dallas, Texas, has also observed such a case (verbal communication).

Each of the above cases has individual differences, but the main points are the same.

H. J., mulatto, laborer, aged 45 years. The man complained of failing sight. Had noticed the trouble for about a year, but thought it would pass off. He has not improved, but is not a great deal worse.

He has suffered absolutely no inconvenience except the dim sight.

Sometimes he sees things clearly, but this seems to be accidental, and never when he is looking at the object. Of late he thinks that he sees worse at night, but is not certain on this point. General health excellent; refraction emmetropic. Tension normal. Iris, cornea and conjunctiva normal. Ophthalmoscopic examination.

O. D.—Media transparent. Nerve slightly hyperæmic and a little opaque.

Periphery of retina and choroid normal. Fundus much less pigmented than is usual with mulattoes.

The region of the macula is surrounded by an almost complete ring of white exudation, the radius of which circle is about the width of two disks. This ring is broken at two points, but forms at least five-sixths of a complete circle. This exudate is largely behind the retinal vessels. In some places it covers them, however. It appears to be organized in large part. The width of the exudate is about half that of the optic disk, and almost uniform in its whole extent (it is slightly wider below). The color is a dead white, and lacks the glistening character, so usual in retinitis of Bright's and of cerebral disease. The area of retina included in this circle is hazy; but otherwise remarkably slightly involved.  $V = \frac{20}{40}$ . Not improved by glasses.

O. S.—The appearances in this eye are similar to those in the right, with the following differences:

The ring is smaller, and the exudate not so wide. But the included retina is more hazy, and there are fairly numerous pigment cells scattered through it. These pigment cells have the character of those seen in retinitis pigmentosa, and are strictly limited to the retina included within the white circle.  $V = \frac{20}{100}$ . Not improved by glasses.

The condition in the left eye I take to be a later stage of the trouble than that in the right.

The patient has no symptoms pointing to disease of the nervous system or kidneys. He is equally free from diabetes, lenkæmia, and syphilis. Urine normal. He gives no history of a blow, and indeed it is sufficiently unlike a rupture of the

choroid to leave that out of account. The size of the ring seems to be variable, in some cases larger and in others smaller.

I take the case to be a chronic circumscribed retinitis, at first confined to the middle and anterior layers of the retina, and later involving the pigment epithelium.

As no such eye has ever been examined microscopically, it is impossible to say what the exact condition is. All the cases observed have been very chronic, and damaged the sight very gradually.

From the ophthalmoscopic appearances the prognosis ought to be bad.

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#### THE THERAPEUTIC USES OF PEPSIN IN SURGERY.

By THOS. O. SUMMERS, M. A., M. D. F. S. Sc. LONDON, D. D. S., ETC., WAUKESHA, WIS

The introduction of pepsin as a therapeutic agent in surgery marks an era in the history of medical science. There is no one substance which may be applied to so many pathological conditions as this animal ferment, which, though in itself possessing no direct curative agency renders the action of other remedies possible which without it would have no effect upon diseased conditions. It stands out prominently as the one only agent capable of attacking and destroying pathological products without injury to physiological structure. Starting out with its function in the digestive process of the organism it presents the most striking example of dialytic action known to nature. In the presence of varied organic compounds held in a reservoir of delicate living tissue, it attacks with violence the firmest animal structures, totally disintegrating them, changing both their chemical and physical relations, and that, too, without the slightest effect upon the tender tissues in which it finds its origin and makes its home. Through all this it remains unchanged in its own identity, not uniting chemically with any of the substances which it decomposes and readjusts to the needs of the organism acting merely by the magic influence of its presence alone, through some unseen Circean power which has ever eluded the grasp of science, and is as subtle as the principle of life itself. For a

long time in the history of physiology, it was an open question whether or not an agent so powerful in its action was not prevented from attacking the walls of the stomach, while it disintegrated other structures, apparently far more capable of resistance, by some special chemical action provided for this specific end, while other physiologists, of what might be called the transcendental school, cut the Gordian Knot by declaring that there was in all living tissue a separate and distinct "*vital force*," which antagonized the dialytic action, and thus protected the stomach from self-digestion. Now, of course the veriest tyro in physiology knows that there is no need for calling in to our aid an agent so vague to explain the mystery—making thus confusion more confounded. Without any such *tertium quid* to cover up ignorance of physiological processes, it is well known that to a certain extent the walls of the stomach *are* digested, until the effect of the alkalinity of the blood is felt upon the acid reaction of the gastric juice, upon which its digestive power depends, or rather, without which it ceases to be active. In pathology we have the same tissues to deal with as those which enter into physiological function, and pathological processes are conducted upon the same *organon*, or law of action, as that which controls physiological development. The constant remembrance of this could often lead to an easy explanation of pathological conditions, which otherwise would be obscure and difficult of recognition. Now it is a long leap from this principle of relationship between physiological and pathological processes to its therapeutic application in those cases where it becomes necessary to arrest the one without detriment to the other. It is the recognition of this which has introduced pepsin into medicine as a local therapeutic agent, and the wonder is that such an application has been so long in asserting its right to a prominent place in the pharmacopœia of surgery. And even after such a therapeutic use of this ferment was announced, the profession has been remarkably slow in taking it up, and giving it that importance which its therapeutic significance deserves. When we consider the great number of pathological conditions whose resistance to the therapeutic lines, clearly and unmistakably indicated, is due to the presence of morbid products, or



the debris of retrograde metamorphosis, it is strange indeed, that an agent capable of removing such obstacles, without injury to normal structure, should not be received with greater consideration, and it is the chief object of this paper to awaken an interest in what may be called this new therapeutic departure, which promises such valuable aid to the use of agents which are clearly indicated in many pathological conditions, but which are prevented from asserting their therapeutic effect by obstacles which it lies within the power and province of pepsin to remove.

In previous papers upon this subject I have referred to the first use I had myself made of this agent, apart from that so long considered its sole therapeutic application, which was the washing of pathological specimens with a strong solution of the ferment, to obtain a clearer definition of histological characteristics in structures under microscopical observation. On several occasions I remember to have been questioned by Dr. Orth, then *Privat-docent* in the Pathological Institute in Berlin, concerning certain unusually clear specimens which I had prepared under his teaching, but knowing the dogmatic character of German professors in general, I hesitated to declare that I had, under his very eye, used anything besides the agents which he recommended in making such preparations. But since then I have often wondered at my own stupidity in not carrying out the idea which I then, rationally enough, put to a practical use, and which it seems could hardly have failed to suggest the therapeutic value of the agent now becoming established in surgical practice. However, with my head *turned for me* in the therapeutic direction by the recommendation of pepsin as a therapeutic agent in the treatment of indolent ulcers, I at once recalled its practical value to me in histology, and began a series of experiments with it which resulted in establishing its wonderful effect upon neoplasms and adventitious tissues—the result of pathological processes. I found that in obstinate gonorrhœa its action upon the mucous membrane of the urethra was such as to give me in every case a smooth clear surface, removing all the products of retrograde metamorphosis, so that ordinary astringents could be brought to bear upon it with promptness and efficacy. So also in the

case of strictures of recent origin—pepsin seems, by a sort of elective affinity, to begin at once its digestive action upon the delicate web which forms across the urethral tract, while it in no degree interferes with the physiological structure beneath. In these cases the action is simply wonderful. In the whole realm of therapeutics I do not know a single agent that acts with such positive and pronounced effect. Of course I do not mean to say that there is anything directly curative in the action of the pepsin—it simply removes those obstacles which stand in the way of remedial agents especially directed to the cure, and which in gonorrhœa, of all other diseases, have proved so often difficult of removal, thus neutralizing the action of every known and recognized remedy indicated by the pathological condition.

There are several points however in this connection which claim especial attention, first and most important of which is the character of the pepsin used. In order to get the desired effect of pepsin as a local therapeutic agent, it is absolutely necessary to be sure of its absolute purity and freedom from any entangling chemical or physical associations which would render it wholly inert as a local remedy, while it might act well enough when taken internally to reinforce the act of digestion. This then must be settled before any of the results to which I have referred may be expected to be realized. And then, it should be perfectly soluble—a fact which not only insures us against impurity, but is necessary in order to permeate structural interstices and free them from the morbid debris which resist remedial agents, however active in themselves, and clearly indicated in the case at hand.

Much of course depends upon the strength of the preparation, and just here let me suggest there is scarcely any remedy in the hands of the profession concerning the quality of which it is so easy to be deceived. We are, if we do not happen to be chemists, and provided with proper tests, wholly at the mercy of the apothecary. I may say (without any invidious distinction) in this connection that I have been furnished with pepsin of the highest grade for my experiments by Messrs. Armour & Co.

Another very important consideration in the use of pepsin as a local agent in surgical diseases is that of com-

patibility in combination with other substances. There are very many valuable local remedies which are rendered effectual by the previous use of pepsin, but which if used simultaneously] would neutralize the dialytic action of the ferment, and thus prevent the removal of those morbid products upon which their own therapeutic effect depends. Of course none with any knowledge of chemistry would think of using an alkali in solution with pepsin, though the two may be often mixed in a powdered form, but even in this state there is risk of neutralization from deliquescence. In case of astringents, it is best always, all things being equal, to use vegetable, rather than mineral, for, as might naturally be inferred, the dialytic action of an animal ferment is more pronounced] in the presence of organic matter than in that of inorganic, or mineral.

My favorite vegetable agent for combination with pepsin in gonorrhœa, is the infusion of cranberry. In the Southern States, at certain times of the year, the juice of the green persimmon may be procured, and preserved for use, by the addition of a little boracic acid, and this forms with pepsin the best and most active combination for use in urethral diseases, and membranous deposits in the throat.

The *soluble pepsin bougie* is valuable for insertion in the various canals of the body that are lined with mucous membrane, and difficult to treat by local injections, or spray.

Another suggestion, which I have found very useful, is the preparation of a pepsin lubricator, for the metal and rubber sounds, when introduced for dilatation of stricture, or for protracted gleet. Indeed, I rarely use a bougie without this *pepsinized* lubrication.

Great care is necessary in preparing all combinations in which pepsin enters as an ingredient, for there are so many things which may neutralize so subtle an influence as that of dialysis that it will not do to rely upon any preparations but those compounded by trustworthy and experienced hands. The preparation which I use in all stages of gonorrhœa, to which I have for convenience of prescription given the name of *gono-pepsin*, is made by combining a saturated solution of pepsin with infusion of cran-

berry. It is always rendered more effective by washing out the urethra first with hot water, and then with Marchand's peroxide of hydrogen, after which the *gonopepsin* is freely used—at least four times a day. With the usual dietetic regulations, the cure is almost in every instance prompt and satisfactory both to the patient and the physician.

I shall add in conclusion but one remark, and that is, the effect of a regular poultice of pepsin laid upon an old indolent ulcer of the leg that has resisted every known remedy, and disgusted and disheartened the most skilful surgeon. It comes little short of magic, and will reward abundantly any one who will put it to the test.

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#### HYDROGEN PEROXIDE IN PUERPERAL SEPTICÆMIA.

BY DR. A. R. TRAHAN, LAFAYETTE, LA.

It was while serving as interne of the Charity Hospital of New Orleans two years ago that I first treated the septicæmia of parturient women. In spite of the strictest preventive measures always enforced in that institution, the disease made its appearance in my ward, and three cases of fever developed, two of which were fatal. In those days emergency cases were received frequently after having been handled by uncleanly midwives. The two fatal cases mentioned above were treated, in the main, according to the rules laid down in the text-books on the subject. The unsatisfactory results were due, I believed, to the fact that the local antiseptics employed, bichloride of mercury, carbolic acid, potassium permanganate, failed to arrest the formation of pus in the uterus soon enough to prevent the absorption of a fatal amount of septic matter; therefore, in the third case I resolved to try peroxide of hydrogen as an intra-uterine injection.

I used a pint (pure), having previously washed out the uterine cavity with sterilized water. One injection sufficed. The purulent discharge ceased, and my patient made a speedy recovery. Encouraged by this success, I requested my father to use this preparation, and asked my friend, Dr. H. S. Lewis, of New Orleans, to do likewise. I am indebted to them for a



report of eleven cases, with only one death, which occurred in my father's practice, and was caused by acute lobar pneumonia, due to the patient's careless exposure to cold shortly after recovery from the septicæmia. In some of these cases one injection was sufficient; in others, two or more were required. In peroxide of hydrogen, then, we have an agent which seems to arrest effectually suppuration in the uterus, prevents further absorption of septic matter, which permits the various emunctory organs, principally the skin, to eliminate from the general system the poison it previously contained before the vital powers are too far deteriorated to recover from its effects. The writer hopes that the facts presented in this paper will induce others to test its merits further.

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## Editorial Articles.

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### DISCUSSION ON DIPHTHERIA.

The discussion on diphtheria at the December meeting of the Orleans Parish Medical Society was a valuable step in the agitation having for its object the education of the people up to the point of recognizing the vast importance of the question, and in recommending measures for stamping out the disease. The discussion is too long to be published in full. The gist of it is given in the following propositions that were adopted:

1. Diphtheria is a specific, contagious and infectious disease caused by a characteristic micro-organism known as the Klebs-Loeffler bacillus, which has well-defined biologic reactions and is the active and essential agent in its transmission and propagation.

2. The differential diagnosis between diphtheria and other diphtheroid (pseudo-membranous) inflammations of the upper-air passages can only be positively established, in doubtful cases, by the presence of the Klebs-Loeffler bacillus.

3. While there are differences of opinion in the medical profession as to the identity of diphtheria and membranous croup, it is an ascertained fact that the majority of cases of membranous croup are really cases of diphtheria, if we accept the Klebs-Loeffler bacillus as a criterion, and that all cases of

membranous croup should be treated as diphtheria from the sanitary standpoint, unless there is bacteriological proof to the contrary.

4. An official bacteriological laboratory, conducted under the supervision of the State Board of Health, wherein the necessary tests for the detection of the specific micro-organism of diphtheria and other contagious diseases could be applied free of cost, is an urgent necessity in this city.

5. That the existing law in reference to the compulsory notification of cases of diphtheria to the Board of Health is defective and unsatisfactory in its present form, chiefly because it fails to include membranous croup and other diphtheritic conditions which are fertile sources of contagion and danger to the community.

6. Reporting cases of diphtheria to the sanitary authorities can not be regarded as a violation of professional secrecy, it being understood that it is the sense of the medical profession that this co-operation should be accorded the sanitary authorities in dealing with this disease.

7. The flagging or placarding of the homes of the diphtheritic patients is a necessary evil, the inconveniences of which are fully realized by sanitary authorities and the medical profession, but the public welfare demands that danger signals be placed at all places of infection, and this is the only practical method by which efficient warning can be given.

8. A uniform period of detention at home of convalescents from diphtheria and others liable to propagate this and other contagious diseases in public schools and other State institutions is desirable.

That the discussion of this important question is bearing fruit is shown by the action of the Board of Health in taking steps to provide a public bacteriological laboratory, such as New York now enjoys. The publication of the propositions in the daily papers is a wise step, inasmuch as it brings to the notice of the people the substance of the views held by men who are qualified to speak on the subject, and who have, moreover, the best interests of the community at heart.

It is a cheering sign to see our medical body, through its organized society, take an active part in the solution of sanitary problems. In more ways than one has the profession throughout the State felt its weakness and unimportance, but nobody is to blame but the doctors themselves. Lack of organization and divided counsels caused the defeat of the medical practice

bill before two legislatures. If the doctors would only rally around the standard they would accomplish something tangible. The discussion of matters of public interest would give the profession an importance in the eyes of the people that it does not now possess. The Orleans Parish Medical Society has started out on this line, and we hope, will still continue; and while it is in the mood it might give its attention to a standing iniquity, the Leper Hospital, which is a subject that has already engaged the attention of the press and grand juries. The following communication from some of the unfortunate inmates might serve as a starter :

THE SITUATION OF THE LEPERS.

LEPERS' HOSPITAL, Dec. 9, 1893.—Mr. Editor Picayune: Dear Sir—Strange as it may seem after all that has been said, we are at present entirely out of water, either for drinking or cooking, and without means to procure either. We humbly appeal through the columns of the good old Pic to the good people of New Orleans for assistance, as we can not get justice at the hands of Dr. Beard. We are also without wood to cook our food. Every post, plank and scrap of wood procurable has been picked up and burned. To-morrow we will have to beg our water from the little corner grocery and carry it three blocks by sick men, for whom Dr. Beard is receiving \$25 per month each for care and treatment.

R. L. FISH.  
JOS. MOSKLER.  
J. PRATT.

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OUR SEMI-CENTENNIAL.

The JOURNAL was established in 1844. With the end of the current volume, June, 1894, the JOURNAL will have completed fifty years of what we hope has been a useful life. On the threshold of its half-century the JOURNAL finds itself with a larger circle of subscribers than it has ever had before—at least since the close of our great civil conflict. It is the intention of the present management to follow the example of another southern publication, the *Maryland Medical Journal*, upon attaining its fiftieth year—namely, to make the JOURNAL a semi-monthly instead of a monthly. Details of the changes to be introduced will be given later.



## THE STATE MEDICAL SOCIETY.

On December 6, 1893, there occurred a conference which is destined to have a marked influence on the future of medical affairs in Louisiana. A report of the conference is published elsewhere in this number. After the second failure to pass the Medical Practice Bill, the JOURNAL maintained that the defeat of the bill was due to an under-estimated force—the opposition of the homœopaths. The JOURNAL also had the temerity openly to advise a conference with the belligerent brethren and ascertain exactly what they wanted, and why they persistently opposed a measure that had long been in force in every well regulated community. The JOURNAL received a good deal of abuse for counseling a step that might be construed as a recognition of the homœopaths as the equals of our precious selves. We are glad to see the wisdom of the course of conduct advised vindicated by the action of the best medical minds in the State. A certain medical monthly, published in the great State of Texas, editorially referred to the JOURNAL as “our weak-kneed contemporary.” We are sorry to see that Bro. Daniel does not know the difference between “weak-kneedness” and common sense.

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## Abstracts, Extracts and Annotations.

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### SURGERY.

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#### THE CURE OF HIP DISEASE WITH PERFECT MOTION.

By JAMES K. YOUNG, M. D., Instructor in Orthopedic Surgery, University of Pennsylvania;  
Attending Surgeon, Orthopedic Department, University Hospital, etc.

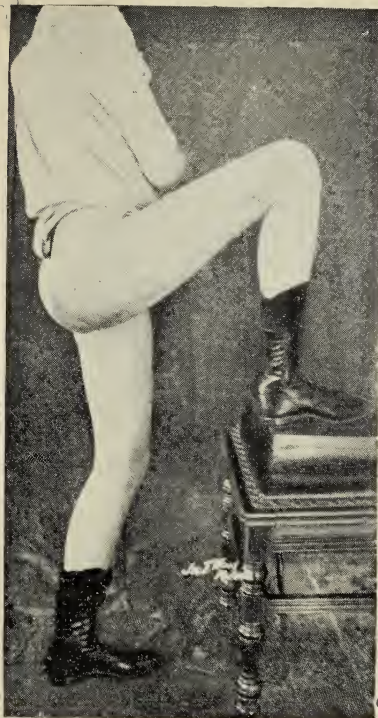
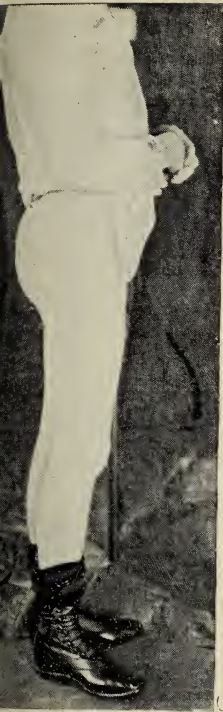
It is customary among practitioners and general surgeons to look upon a recovery from hip disease with ankylosis as a good result, and all that is to be expected, while some few physicians, and the laity generally, look upon this disease as an incurable affection. With careful treatment under favorable conditions, cures have been reported in from 55 (Cazin) to 97 per cent. (C. F. Taylor) of the cases treated.

Recoveries with fair or perfect motion are rare, but this is the ideal sought, and this it is in some instances possible to obtain. Of fifty-one cases reported by Shaffer and Lovett, there were two recoveries with perfect motion in every direction. Twenty-six suppurative cases were included, and these showed as good an average of motion as the non-suppurative. Of thirty-seven suppurative cases examined by Howard Marsh, perfect movement was found in one case, and among thirty-nine non-suppurative cases, nine were classed as perfect recoveries. The cases reported by Shaffer and Lovett were treated by ambulatory methods throughout the disease, while those reported by Marsh were confined to bed, and treated by fixation and traction during the periods between the exacerbations.

Of four hundred and seven cases treated between 1859 and 1889, excluding resections, by Sayre, with the portable traction splint, without immobilization, seventy-one were reported cured, with perfect motion. "In some cases," as Dr. Sayre remarks in his very valuable contribution, "the recovery has been so perfect and complete in reference to both form and motion that the question has been raised whether the patient has ever been troubled with hip disease. It is on this account that I have selected only such cases to report as had been examined by other surgeons of the highest standing, and whose knowledge and ability to make a correct diagnosis would certainly be unquestioned in the professional world." Of this number he reports seven cases in detail, one of which is a good cure (Case V), and six are perfect cures.

These figures indicate the small number of cases of hip disease cured with perfect motion, but they also illustrate the possibility of cure with complete restoration of function. My own results correspond so closely with those reported by Dr. Sayre that I have taken the liberty of recording two cases of cures with perfect motion, selected from a large number of cases which have come under my observation during the past seven years. Moreover, they have been obtained by methods analogous to, if not identical with, those employed by Sayre. Both the cases were examined and under the care of practitioners capable of making a correct diagnosis of the affection. Case I was examined by the late Dr. D. Hayes Agnew, and an immediate excision was advised as the only possible measure available.

These cases have been recently exhibited at a meeting of the Philadelphia County Medical Society, (January 11, 1893), and the verity of the cures attested by a committee composed of Dr. Benjamin Lee, chairman; Dr. H. R. Wharton and Dr. Wm. J. Taylor.



CASE I.—Right hip, cured, one-fourth inch shortening.



CASE II.—Left hip, cured, one-eighth inch shortening.







CASE I.—A. O. C., aged 7 years, school girl, consulted me June 7, 1887. Her father is a laborer. In the winter of 1886 he suffered from some affection of the brain and lungs. Her mother is in good health. Four brothers and sisters also well. Two years before coming under observation the patient was kicked by a boy on the right hip. Six months later the foot turned out when sitting, and she complained of pain in the knee. Her general health had been fair. She was treated at St. Joseph's Hospital, and Dr. Agnew, who saw her at his office, advised an immediate excision. She was referred to me by Dr. George M. Boyd. Examination showed that the right hip was in the second stage of chronic tuberculous arthritis, with beginning ankylosis.

The measurements were as follows:

	RIGHT.	LEFT.
Length.....	23 $\frac{3}{4}$ inches	24 inches.
Circumference of thigh.....	9 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "
Circumference of calf.....	8 $\frac{1}{4}$ "	8 $\frac{1}{2}$ "

The patient was put to bed and extension applied. Nine days afterward she was fitted with a long extension hip splint.

The measurements on January 7, 1893, were as follows:

	RIGHT.	LEFT.
Length.....	30 inches	30 $\frac{1}{4}$ inches.
Circumference of thigh.....	at 4=11 $\frac{1}{2}$ "	at 4=12 $\frac{3}{8}$ "
Circumference of thigh.....	at 7=14 "	at 7=14 $\frac{3}{4}$ "
Circumference of calf.....	10 $\frac{3}{4}$ "	11 $\frac{1}{8}$ "

The right hip shows slight fullness in front of the trochanter.

CASE II.—E. B., aged 6 years, was referred to me May 15, 1890, by Dr. R. H. Hamill. The patient had complained during the previous six months of pain in the left limb, and for two months there had been a limp in her gait. Her parents were healthy, but her paternal grandfather and uncle died of laryngeal tuberculosis. The child recently had a severe attack of r6theln, followed by a mastoid abscess.

On examination, the motion of the left hip joint was found to be limited in attempting forced flexion and extension.

Measurements:

	RIGHT.	LEFT.
Length.....	22 $\frac{1}{2}$ inches	22 $\frac{1}{2}$ inches.
Circumference of thigh.....	10 $\frac{1}{4}$ "	9 $\frac{3}{4}$ "
Circumference of calf.....	7 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "

She was put on constitutional treatment; compound iodine ointment was applied locally, and a Taylor long splint was applied. She remained under treatment until April 15, 1892, when the splint was removed without permission.

The measurements at that time were as follows :

	RIGHT.	LEFT.
Length.....	22½ inches	22⅜ inches.
Circumference of thigh.....at 3 =	9¾ “	8½ “
Circumference of thigh.....at 5 =	11⅛ “	10¼ “
Circumference of calf.....	8¾ “	8¼ “

Forced flexion and extension are normal, but there is slight rigidity of the adductors on forced abduction. As noted above, there is one-eighth inch shortening in the affected limb. The degree and range of motion have improved daily. This case may also be considered a perfect cure.

*Treatment.*—These cases were treated by traction, without immobilization, and show the good results obtained by this method. The long portable traction splint was used, and the patients encouraged to walk as soon as it was applied; they thus securing the benefit of air and sunshine. Traction was continued at all times, the apparatus being worn at night as well as in daytime. Locally, compound iodine ointment was applied daily, either in the groin or behind the trochanter of the affected side. Constitutional treatment was employed throughout the entire course of the disease, compound syrup of hypophosphites being given in the summer, and cod-liver oil in the winter.—*University Medical Magazine.*

#### TREATMENT OF LOSS OF SEXUAL POWER BY LIGATION OF VEINS.

The loss of sexual powers, says Dr. Alfred King, or rather deficient erections of the penis, render so many men miserable mentally and physically that any new method of treatment promising a radical cure merits investigation and trial.

Three immediate causes of deficient erections may be specified: destruction of the erector muscles, loss of nerve power, and a change in the circulation. The first of these is so rare and so easily determined that it needs only a passing notice. The second cause, loss of nerve power, seems to me to have received more prominence than it deserves, as it is the basis on which almost all treatment is founded. While its force in many cases is undisputed, yet the frequent failure of treatment based upon it leads me to direct attention to the importance of the third cause, that is, a change in the circulation. This change takes place in the veins, especially those which do not pass beneath the pubic arch or are not acted upon by the erector muscles. Repeated engorgement of the penis renders their caliber larger, and consequently there is a

more rapid escape of blood through them. When, therefore, an erection takes place, it can not be maintained on account of the escape of blood through these channels. Thus we have the history of gradual shortening of the duration of erections, and finally scarcely none, if any, as these veins grow larger.

The remedy for such a condition, especially when far advanced, is not in the use of drugs, but may be brought about speedily and safely by the ligation of some of the larger of these veins.

The following case is given to illustrate this cause and its successful treatment:

Mr. M., aged thirty-five, a laborer of powerful physique, came to me about a year ago with the following history: For several years he had been losing the power of maintaining an erection; during the past year its duration had been so short that sexual intercourse had been impossible. There was a loss of sexual desire and great mental depression. Excessive use or abuse was the cause of this condition.

I gave all possible encouragement to the patient; advised total abstinence from sexual intercourse, cold baths (especially to the spine and external genitals); prescribed bromides, cannabis indica, cantharides, damiana, phosphorus and salts containing it; pushed strychnine as far as it could be borne, gave various tonics, used electricity, and in short did everything which offered any hope of success, but all to no effect so far as producing any stronger erection was concerned.

Careful study of the case convinced me that the immediate cause of the trouble was a physical one, due to a leakage, as it were, or to a too rapid escape of blood from the penis when erected. I therefore determined to ligate a couple of the largest subcutaneous veins at the base of the penis and watch the effect.

This was very easily done by the use of cocaine. A vein on each side of the penis was exposed, ligated in two places and severed between the ligatures. A dressing was lightly applied, and held in position by a strip of adhesive plaster placed longitudinally. The result was immediate. In less than five minutes after leaving my office he had an erection. That night he was awakened by a powerful erection, which made the bandage so painfully tight that he was obliged to jump out of bed on to the cold floor to subdue it. Primary union was prevented by the frequent erections, but the success of the operation was certain.

Two months later he reported himself well, mentally and physically, his sexual appetite had returned, and since the operation his power of maintaining erections had been good as ever.—*Boston Med. and Surg. Journal.*

## TREATMENT OF ANEURISM BY ELECTROLYSIS.

Dr. Verhoogen, of the service of the Hospital of St. John at Brussels, tells us of two cases of external aneurism treated by electrolysis.

The first was of the temporal artery. The tumor, formed of four confluent enlargements, offered all the signs of a true aneurism—vibratory fremitus, systolic souffle, etc. After ten sittings of positive electrolysis, done by means of three platinum needles plunged into the tumor, the duration of the electric current being five minutes and its pressure five milliamperes, a sensible improvement showed itself in the condition of the patient. Fremitus and pains disappeared, the tumor softened, and cure would have been complete if the patient had not quitted the hospital before the end of the experiment.

The electrolytic power of the current consists in decomposition of blood salts during its passage through that fluid, bases going to the negative pole, acids to the positive. It is this free acid which causes the coagulation of the blood. We learn from the interesting experiments of Dujardin-Beaumetz that clots so formed are more adherent than others to vessel walls, thus avoiding all danger of embolism. During their formation they pile up on each other in cup shape, and finish by filling the aneurismal pouch.

The second case was one of an enormous vascular tumor, for the cure of which Dr. Verhoogen intended to arrange an electrolytic treatment a little different from the first.

He preferred to employ the method called interstitial electrolysis, which consists essentially in the operator using electrodes of pure copper. By electrolysis during decomposition, the blood chlorides lose chlorhydric acid, which attaches itself in the form of oxychloride of copper to the positive pole.

Thanks to its extreme diffusibility, and especially to the cataphoretic action of the current, this salt penetrates swiftly through tissues in the area of a zone situated around the needle. It is transported, so to speak, in its primary condition into morbid tissues, where it exercises a powerful action for change which is capable of producing resolution of tumors. Dr. Verhoogen has practised this method with steady success in a large number of uterine growths.—*Revue National of Electro-thérapie Paris*.—*Times and Register*.



## SURGICAL SHOCK.

By CHARLES P. NOBLE, M. D., Philadelphia, Surgeon-in-Chief of the Kensington Hospital for Women.

It is proposed in this communication to briefly consider the nature of surgical shock, and then take up its treatment in detail. Shock is a condition of the body which is characterized by feebleness and rapidity of action of the heart, by the shallowness and frequency of respiration, by the lowering of the temperature of the body, and by the lessened activity of most of its functions. Intellection, digestion, and the secretion of urine all are more or less in abeyance. It is probable, also, that the process of assimilation and metabolism are profoundly interfered with. Perspiration is usually free, the body being covered with a cold, clammy sweat. This, however, is due not to the increased activity of the sweat glands, but rather to an arrest of an activity of their cells, so that they simply act as strainers for the watery part of the blood to pass through them.

There can be no question that vitality is at a low ebb when shock exists, but there is some difference of opinion as to the real physiology or pathology involved. It is generally accepted that shock is a manifestation of paresis of the nervous system, its symptoms being due to lessened and irregular innervation. The question as to whether the cerebro-spinal or the sympathetic system is most involved is in dispute, and we do not propose at this time to attempt the elucidation of the question. As a matter of fact, injury of the body in any of its parts can bring about shock. Injury to certain parts of the body are especially liable to produce shock. These parts are the testicle and urethra in the male, the ovary (in a lessened degree) in the female, and the abdominal viscera. Examples of shock from injury to these structures are common, and familiar to every one of experience. The familiar experiment of temporarily arresting the heart's action of the frog by a blow upon the abdomen is a striking illustration. Leaving aside the disputed points at issue, we wish to consider certain facts because of their very practical bearing upon the therapeutics of surgical shock. Among the most important symptoms of shock is the lessened force and greater frequency of the heart's beat. The activity of the respiratory centre, also, is much lessened. The superficial blood vessels are contracted, so that the surface of the body is pale and even blanched. The temperature of the body is lowered below the normal. These facts are indisputable, and a recognition of the existence of these conditions forms the basis for rational therapeutics. Heat must be restored to the body; the heart and respiratory centres must

be stimulated to do their work; and the superficial blood vessels must be dilated, so that the circulation may be equalized by affording a channel for the blood which has been retained in the great veins of the abdomen. The practice which I have followed for some years to accomplish these results will now be given.

*Treatment of Shock.*—The most important point in the treatment of shock is its prevention. Much can be done by prudent management, either to avoid shock or to lessen its degree. In selecting the date for operation a time should be chosen when the patient is in good condition. Almost always this is possible. It is only in emergency cases, and in patients who are suffering from a disease whose progress is steadily and rapidly downward, that preparatory treatment will not put them in better condition. All patients requiring operation should receive careful study, and every therapeutic indication should be met before operation. Especially should the condition of the emunctories be looked after. The bowels, skin and kidneys should be put in good condition by the use of baths, purgatives (especially broken doses of calomel and salines), and the abundant ingestion of water. The *morale* of the patient should not be neglected, as much can be done by stimulating the courage of the timid and allaying the fears of the despondent, to make the patient look forward to the operation with courage and without dread. All these matters should be attended to prior to the day of operation. The temperature of the room in which the operation is done should be high, from 75 to 85 deg. F. In such a room the loss of heat from the patient by radiation is much less than when the operation is done in a cool room.

Loss of heat from the patient can be lessened also by the manner in which she is dressed. It is best that she be well wrapped in blankets, and that as little of the skin surface be exposed to the air as the necessities of the particular operation permit. For the same reason the use of wet towels or gauze about the patient is to be deprecated. Evaporation from such wet materials chills the patient. Much can be done also by the proper administration of the anæsthetic. Patients should not be drowned in ether. Enough only should be given to maintain anæsthesia, unless to meet a certain indication, absolute relaxation is required. The prevention of hæmorrhage, and the avoidance of rough handling of the patient, especially on the abdominal viscera, are matters of the greatest importance in preventing shock. The careful surgeon gives due attention to each and all of these matters of detail, and no one so much appreciates their importance as he who has to deal

constantly with grave operations. This applies especially to the abdominal surgeon, because in many cases when he begins an operation the life of the patient depends upon its completion. He can not do a part of it and postpone the rest to another day. In many of the long, tedious operations which he is called upon to do, involving multiple visceral adhesions, the very life of the patient itself depends upon attention to every detail to prevent shock, so that he may have time to complete the operation *secundem artem*.

The active treatment of shock consists in supplying heat to the body which has been lost, in stimulating the heart to better work, in counteracting nervous depression and in overcoming irregular action, especially on the part of the vasomotor nervous system, until reaction shall occur and the vitality of the patient can be sustained by alimentation. In describing the treatment of shock, I shall simply give an account of my own practice in the treatment of this condition.

If during the operation the patient begins to suffer from shock and there is reason to expect that this will increase, especially when the operation is not yet completed, I begin at once actively to treat it. One-fifteenth of a grain of sulphate of strychnia and one-fiftieth of digitalin is given hypodermically, and the dose of strychnia is repeated every fifteen minutes until some improvement is manifested in the pulse, until a fifth of a grain is given. If improvement does not manifest itself promptly, and especially if shock be profound, or if the patient has been markedly prostrated before the operation, a hundredth of a grain of atrophia sulphate and two or three minims of a 1 per cent. aqueous solution of nitro-glycerine are given hypodermically. In still other cases, from three to six grains of citrate of caffein are administered in addition. During this time hot water bottles have been put about the patient, and if the operation is an abdominal section, at times warm water is poured into the peritoneal cavity. I have also employed hot beef tea enemas, but as a rule, an enema is not given, because it interferes with the completion of the operation, which is just as important as any one detail in the treatment of shock, if not more so. In fact, it is of the highest importance to complete the operation as rapidly as is consistent with safe work. The same is true of the after-dressing of the patient, who should be put to bed as promptly as is feasible.

The bed should have been warmed by having hot water bottles in it while the operation was in progress, and in all cases in which shock is a marked feature, the sheets should be removed and the patient placed between warm, dry blankets. At this stage the use of whiskey by enema is of

service, and at times it is proper to use whiskey during the operation, especially if shock is not another name for too much ether. The use of whiskey or alcohol in any shape is not good treatment for an overdose of ether. The best way to employ whiskey, as a rule, is to give it by enema with hot beef tea, about two ounces of whiskey and six ounces of beef tea. Dry friction with the hand or with a cloth, especially to the extremities if they are covered with clammy perspiration, will do much to bring about reaction, and also will lessen radiation from the surface by preventing evaporation of the perspiration. Morphia in small doses, one-eighth of a grain or less, is also useful as a heart stimulant and as an anodyne, if, when the patient becomes conscious, there is marked pain. The morphia not only acts as a stimulant itself, but prevents depression which would result from severe suffering. So much for the immediate treatment of shock. Under ordinary circumstances, when the shock is marked and yet not so profound as to be alarming, within half an hour strychnia can be pushed to a fifth of a grain, atropia to a fiftieth, caffeine to five grains or more, and digitalis to a twenty-fifth of a grain, or, what is really better, tincture of digitalis to half a drachm, with the fiftieth of a grain of nitro-glycerine.

If the crisis passes and yet the patient remains in a markedly depressed state, the question of treatment for the ensuing twenty-four or forty-eight hours comes up. The use of external heat should be continued until the temperature of the body becomes normal, and even longer should the patient complain of chilliness. But the sheet anchors of safety are strychnia, digitalis and whiskey. In a marked case it is my habit to give the following order: To give hypodermically sulphate of strychnia, one-thirtieth of a grain one hour; tincture of digitalis, fifteen drops, with one-fiftieth of a grain of nitro-glycerine, the next hour; three grains of citrate of caffeine the third hour; and an enema of whiskey, two ounces, and beef tea, six ounces, the fourth hour. This order I have had carried out many times for twenty-four, forty-eight and even seventy-two hours. In the worst of cases, for its temporary effect, cocaine has been employed in addition to the above, also small doses of morphia, if much pain and especially if great restlessness were present. It is my experience that most patients will take a fifth of a grain of strychnia in twenty-four hours without manifesting symptoms of strychnism. I have not employed the heroic doses of strychnia described by some writers, such as half a grain within two hours, but in a deperate case, watching it carefully, I should not hesitate to give repeated doses of one-fiftieth of a grain every half hour until some symptoms of irri-



tation appeared. We certainly have no more reliable exciter of the nervous and muscular systems than strychnia, nor any drug which is more capable of maintaining its effect.

Digitalis is also a very reliable drug in the treatment of shock. It is capable of whipping up the heart to increased work, especially for a few days and until a sustained effect can be secured by alimentation. This is exactly what is required in the treatment of shock. Digitalis has, however, one effect which is undesirable. It causes a contraction of the arterioles and thus increases arterial pressure; so that while it whips up the heart to do increased work it also hinders the heart through the increase in arterial pressure; hence it is wise in the treatment of shock, to combine digitalis with nitro-glycerine, which overcomes this bad effect of digitalis. The combination is much more effective than either drug alone. Caffein is a pure heart stimulant, and can be administered freely without evil consequences. Alcohol, used judiciously and in not too large quantities, is one of our most important remedies. In shock following abdominal operations, it is best administered by enema combined with beef tea, which is itself a stimulant. Later in the case champagne by the mouth is often of service, but it fills only a partial indication and is not to be compared in value with whiskey when this can be ingested and retained.

The management of the diet in the treatment of shock is also important. Immediately after an operation accompanied by much shock the stomach, as a rule, is not retentive; hence it is wise for a time in no case to administer much aliment of any description by mouth. Some hot black coffee or hot beef tea is as much as should be given. When the stomach becomes retentive, light, easily assimilable food should be employed, as beef tea, broth, milk (preferably peptonized), egg-nogg, punch, etc. These foods should be administered in small quantities frequently repeated. The question of alimentation in the treatment of shock following abdominal operations offers certain peculiar difficulties. Under ordinary circumstances, when shock is not a special feature, it is the rule to administer no food to the patient, who has had a cœliotomy, for from thirty-six to forty-eight hours after the operation. Then broths or beef tea from two drachms to one ounce, or two drachms of milk with one of lime water, are given every half hour, and if retained, the quantities are increased and the intervals lengthened, until about the fourth day after operation the patient is put upon liquid diet, the amount being regulated largely by the appetite. But in cases accompanied by marked shock, if the stomach proves retentive, it is wise to begin the administration of milk or beef tea at the earliest feasible time,

the quantity being increased as rapidly as, in the judgment of the surgeon, the patient is able to digest and to assimilate. In some critical cases lives will be saved by judicious alimentation, which would be lost were the usual rules applicable in abdominal surgery followed.

It may be questioned whether the term shock should be applied to conditions which persist for one, two, three or more days. It is customary to consider that shock is of temporary duration, and that it ends either in the prompt death or in the recovery of the patient. But there are cases in which it is difficult to assign a name for the condition of patients, if it be not shock. I refer to those cases in which the patient exhibits marked shock after operation, and in which, although after a time the temperature of the body becomes normal and remains so, yet the patient's vitality remains at a very low ebb, the pulse continues rapid, small and feeble. The cutaneous circulation is not restored, the surface of the body being cool and pale; and where no other symptoms are present except those of pronounced asthænia. This condition must be called shock, or else inanition or asthænia following shock. The condition persists until it is relieved by alimentation, as the nerve and heart stimulants, strychnia, digitalis and whiskey, are not curative. I have had patients to die in this condition as long as a week after operation, without having manifested other symptoms than those of pure asthænia, and in which the post-mortem examination showed no cause of death. On the other hand, I have seen patients recover from this condition, improvement becoming manifested upon the third, fourth or fifth day, when it appeared that death was imminent from failure of the heart and respiratory centres. It is in such cases that judicious alimentation is of the highest importance.

In this class of cases the administration of oxygen gas by inhalation is at times of service. All the vital functions are at such a low ebb, that any agent which is capable of improving the process of metabolism is of value. My experience with the use of oxygen for this purpose is limited to one case, which was one of marked shock following an operation for double pus tubes, in a woman reduced to the last extremity by hectic. She went to bed with a pulse of 180, with cool and blue skin, and every other evidence of the profoundest shock. The pulse did not fall below 145 for three days, near the close of which period there was every indication of early death from pure asthænia. The plan of treatment already detailed was followed out in her case, and in addition oxygen gas was administered during one day. It seemed to be of great benefit; at all events, she passed out of the shadow of death and made a good recovery.

THE IMPORTANCE OF EARLY ATTENTION TO THE DISABILITY  
CAUSED BY INFANTILE PARALYSIS.\*

By A. B. JUDSON, M. D.

I propose to consider briefly the question whether a certain class of patients should not be committed more entirely and more early than they are to the care of the orthopedic surgeon, a consideration as interesting to the family physician as to the orthopedist, as they meet in a friendly alliance to secure the greatest benefit for their common patient.

I refer to patients disabled by infantile paralysis. The child has passed through the stage of onset. Ergot, electricity and massage have produced their legitimate effect, and we will say that the eighteen months which are believed to be the limit of spontaneous recovery from the paralysis are passed. The friends and the patient, with many grievous misgivings, have become reconciled, or at least accustomed, to disability and deformity which now seem to change for neither the better nor the worse. What can now be done? The question whether such a patient may not yet receive benefit from the advance of scientific knowledge, or from the daily increasing facilities for the application of knowledge, will surely spring up in the parental heart.

Now it is curious to note that the deformity in these cases is often found, upon analysis, to be a disability more than a deformity. Take a case, for example, in which the knee can not be completely extended. When the patient is sitting there is no deformity, but when he stands the apparent deformity is due to a disability—an inability to extend the knee. How easy it would have been to prevent contraction of the hamstrings by providing for their repeated elongation by complete extension of the knee, easy comparatively for one who has given himself to such details and is habitually mindful of their importance and free from the manifold cares which beset the average practitioner. And it should be borne in mind that cases sometimes occur in which shortening of the tendons begins, in a manner not well understood, at a very early stage, before simple desuetude can be fairly accused of being the author of the mischief. The prevention of muscular and tendonous shortening then should receive attention on the part of the early observer of the case. It is not an obscure and difficult point, but one which has perhaps escaped the consideration to which it is entitled.

To recur to the disabled knee, and this part of the anatomy is used simply as a convenient example to illustrate points in

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pathology and treatment applicable to all the joints, if the knee is kept extended at those times when walking is attempted, not only are the muscles and tendons kept in normal elongation, but the general welfare of the limb is assured. Neglected patients may be seen in the streets walking laboriously with extension of the knee produced by the hand pressed firmly at every step on the lower part of the thigh when the weight of the body is on that limb. It is doubtful whether this in any case prevents the final resort to a crutch, by the use of which the limb is made to dangle, being carried about as a worse than useless burden, twining limp around the crutch, subject to the painful affections which attack the lower extremities in cold weather in the absence of healthy circulation, and more and more impeding locomotion until, as has happened many times, the adult patient seeks relief and improved locomotor ability in amputation and an artificial limb. If the knee is stiffened mechanically the pressure of the weight of the body in standing and the repeated concussion of the limb, as the foot strikes the ground in walking and running, will improve the tardy circulation, but beyond this, and better than this, will be the development of unused muscular fibres and special groups of muscles, by whose action important motion will be acquired which would have been impossible if the limb had remained in suspension.

Now in order to keep the knee firmly extended under the weight of the body in standing and walking, and to give use and development, as far as may be, to the fragmentary muscular system of the limb, apparatus is required; but it will not be obtained without authoritative medical advice and prescription, and as a rule the family physician can not be expected to work out the tedious processes incident to treatment of this kind. It falls to the lot of the specialist, who can well bear the inconvenience attending final results which are more or less imperfect, after satisfying himself that he has done all that science permits to be done, and whose daily and hourly mastery of the necessary details has enabled him to reduce perplexing and complicating conditions to familiar routine. Treatment of this kind lies far outside ordinary practice in which the physician renders such signal service. He makes his diagnosis, advises, prescribes, remains on guard against complications, foresees the crisis and prepares for it, leads the way cheerfully through convalescence; and medical science, so dear to us all, finds but another illustration of its power and beneficence. In one home a wasting fever has been finally resolved and the patient rises in perfect, or even improved health from a bed where the grim alternative has been decided in his favor. In another the children have been happily carried through the



perils of infection and resume their places at the table. But in the special practice adapted to the cases under consideration there is no fear of a fatal result and no rejoicing, and the object sought is at the best a palliation. But who will say that important service has not been rendered? for it should be remembered that the conservative and plodding practitioner along this line has for an ally one of the most potent influences in nature in the growth of the body. The popular reliance on this force, expressed in the common question: "Will the child not outgrow the ailment?" whatever it may be, is not always misplaced. Happy the physician who, imparting his confidence to the patient's friends, and relying on the exact science of the physicist, sees grace and power growing out of deformity and helplessness.

A good general rule in the treatment of deformity in a growing child is to keep the part as near as possible in the desired shape as much of the time, day and night, as is practicable, so that the increment shall be on the right side of the dividing line between the normal and abnormal. The familiar proverb says: "As the twig is bent, the tree's inclined." In the troubles following infantile paralysis the principle should be extended. We should not only persist in keeping the part as near the abnormal shape as we can, but we should also give as wide play, as the crippled condition of the limb will allow, to the functions of motion and weight-bearing. From the very earliest attempt to walk, or to make use of the muscles and joints which are imperiled by the cord lesion, extraneous assistance should be afforded. It should not be said, off-hand, that the child is too young. The first and repeated question should be: Is the child not yet old enough, or is he not already giving sufficient evidence of a desire to make use of the questionable muscles and joints to make assistance desirable or necessary?

When efficient treatment is begun it is easily continued. Improved ability is at once appreciated by both parent and child. It is well that such is the fact, for improvement does not stop with infancy or childhood. The process is slow and prosaic, but the benefit can not be over-estimated in the opinion of the one who is in the best position to judge of its value. A slight improvement in the gait, or an ability to walk a little faster, or a little further without fatigue, confers lasting happiness, and the patient and physician are thus encouraged to go on to new achievements until, with one step after another gained, the outcome is an adult well able to follow the ordinary pursuits of life, in place of a being who had looked forward to hopeless dependence.

**PRACTICAL REMOVAL OF HAIRS, MOLES, ETC., BY  
ELECTROLYSIS.**

Dr. S. Lorenson, of Racine, Wis., in the *Medical News* writes a practical article on the above subject, extracts of which are as follows:

“The theory of the removal of superfluous hair by means of a galvanic current is comparatively simple; it is to insert the needle attached to the negative pole of the battery into the hair-follicle, apply the current, and dissolve the tissues, when the thing will be done. However easy this may seem, when the physician tries to make a success of it in his every-day practice he finds it by no means so simple.

I shall try to give my views of how to make electrolysis a practical success from a practical, almost daily, experience during a period of over two years.

Having a battery of the proper kind, cords, a finger-bowl for water, needle and holder, a pair of small tweezers, and a comfortable arm-chair with some appliance upon which the operator can rest his elbow, one has the essentials for the work. The chair should be placed where a good light will fall on the patient's face, a towel placed in the patient's lap, and upon it a finger-bowl about two-thirds full of water, in which is a sponge-electrode connected with the positive pole of the battery. The cord attached to the negative pole is fastened to the needle holder.

The operator will turn on two cells, seat himself with his back to the light, and sufficiently close to the patient so that he will not have to exert himself in reaching; he will then insert the needle to the bottom of the follicle, then tell the patient to dip one finger into the bowl. In inserting the needle the holder should be held with the same gentle firmness that a pen is held, the third and fourth fingers resting lightly on the skin near the hair to be removed, so as to gently steady the hand.

The first indication of results is a white froth, which makes its appearance at the mouth of the follicle, around the needle. Depending on the strength of the hair and the force of the current, the operator will judge whether the hair is loose. When he wishes to attempt its removal with the tweezers he will ask the patient to remove her finger from the water, and will then seize the hair with the tweezers and make a gentle traction; if the hair makes any appreciable resistance the needle must be reinserted and the current again applied. When the hair is entirely loosened by the current a good result may be looked for.

No hard-and-fast rules can be laid down for doing this

work, and each individual operator will be called upon to exercise his judgment in the case of each one upon whom he operates, and much of the time upon the individual hairs.

The part operated upon should be surgically clean. Next the needle should not be inserted more deeply than the bottom of the follicle. Experience will indicate when the needle is at that point by a slight sense of resistance. Should the needle be inserted too far, considerable tissue may be destroyed, and still the hair will not be loose. Another thing to avoid is passing the needle through the side of the follicle, something which experience also teaches one to recognize by the touch. If this be done and the current applied, a white spot will begin to spread around the needle; the result with regard to the hair will be the same as in the former case, and in both a vesicle may form, with some exudation of serum, and with the danger of subsequent pustulation, and formation of a pitted scar.

This rule may also be laid down, that until the operator becomes acquainted with his case he must be sure not to take the hairs out when they are too close together. This is a matter of a great deal of importance, for frequently patients whose time and money are limited will urge the doctor to take out hairs that are too close together to be operated upon with good results in one day, or even on two successive days.

Again, the temporary inflammation which always sets in does not fully show itself until after several hours, so that a patient may leave the office with a face that shows comparatively little trace of the operation, but will return the next morning with that part of her face in a very sorry-looking condition. I repeat that the importance of what I have just said cannot be over-estimated, for upon the proper attention to this matter may depend the success or failure of the operation, at least so far as the question whether or not the patient will have a smooth face after the hairs have been removed is concerned.

As regards the duration of the operation, the amount of time at the disposal of the patient and the extent of surface covered by the growth are factors.

Another use to which I have put electricity in the form of the galvanic current is the removal of moles and enlarged cutaneous blood vessels, such as are frequently seen on and around the alæ of the nose and also on the body of that organ. For convenience I divide moles into two classes—not that the appliances for removing them are different, but that the *modus operandi* differs somewhat in each. The apparatus for removing moles is the same as that used for the removal of hair, with the exception of the tweezers.

The first class is the very common disfigurement called liver-spots, which are really pigmentary moles, or perhaps

exaggerated freckles. They are little, if at all, elevated above the surrounding surface. The method of procedure in the case of these is as follows: The patient and operator take the same positions as in the removal of superfluous hairs, the parts to be operated upon having been thoroughly cleansed. The operator now inserts the needle at the edge of the mole, just beneath the epidermis, applies the current, which should be weak, and gradually passes the needle through the growth. As the electrolysis goes on it will be observed that a loosening of the pigment takes place, and it mixes with the froth around the needle. The needle must now be worked over the entire area of the mole, taking care to go no more than deeply enough to loosen the pigment. After a few seconds the burning sensation that accompanies the insertion of the needle ceases, in consequence of the local anæsthetic effect following the application for a limited time of a comparatively weak current. The whole operation can be completed with only one puncture of the epidermis, although in small moles that is a matter of little consequence. The pigment and dissolved tissue are now left to dry into a crust, which comes off in a few days, leaving a bluish-red spot, as always happens when a bit of the epidermis has been scraped off, and which later becomes the color of the surrounding skin.

The next class of moles includes those that are elevated above the surrounding surface, and which frequently contain a number of hairs. As a rule the first thing to do is to remove the hairs, which, if few, can be done at the same sitting the mole is operated upon, and in the manner described in the first part of this paper.

In this class of moles the needle is inserted at the base of the growth and gradually passed through it, and may be passed out at the opposite side. This is repeated until the whole base has thus been treated, the object being to cut off the circulation by electrolyzing the blood vessels at the base of the growth.

The first sign produced in the mole will be a gradual whitening of that part external to the needle, which finally reaches an appearance of complete anæmia. The electrolysis must continue until the circulation is entirely cut off. Inside of twenty-four hours the whiteness will have disappeared and be replaced by a black color. There soon follows a dried, hard crust, the time depending upon the size of the mole, which falls off in a few days, leaving a discoloration that gradually disappears.

As a rule it is not advisable to attempt to remove a mole at one sitting, unless it be quite small, for fear of leaving a scar.



In recapitulating as to certain things which must always be borne in mind in performing any of the operations I have mentioned:

1. Do not begin with too strong a current.
2. Apply the current for a sufficient length of time.
3. Always apply the negative pole to the part it is desired to destroy.
4. Do not have the circuit closed when you insert the needle until you have learned to know your patient *electrically*, if such use of the word may be permissible.
5. Always test the strength of your current before beginning. To do this I have found a convenient way is to touch the two poles to my tongue, having the points about an inch apart.—*Times and Register*.

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## MEDICINE.

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### PHYSICAL CULTURE IN PULMONARY PHTHISIS.

By C. F. MCGAHAN, M. D., Aiken, S. C.

I will not take up your time this morning by sounding the praises of some new therapeutic measure in the treatment of pulmonary phthisis. Tuberculin, and its modifications, the double iodide of gold and sodium, the iodides of gold and manganese, creasote and other drugs and treatments too numerous for me to mention, have all had their day. Most of them have passed into oblivion, and the apparatus used has been stored away as a curiosity.

What I do wish to call your attention to is physical culture, not only in those who come to our notice with weak chest, but to solicit your aid in bringing it before the proper authorities so that physical culture will be as important a part of a school-girl's or boy's life as their A B C's, or any lesson in grammar, geography or history. My heart aches when I see a bright lad of from ten to fourteen years, sitting in the house all the time with some large book, the foolish parents encouraging it, thinking that their child is so much brighter than others of his age, and expecting the world a few years later to bow down and worship the genius. Poor misguided mortals, too late are their eyes opened to the fact that their darling has developed the brain to the neglect of the rest of the body, and exacting nature, ever anxious to make sturdy men and women, crops off the weaklings as a gardener thins out the weak trees to make the stronger ones grow more sturdy still.

Four-fifths of the cases of phthisis that occur would never happen if the victims of it had paid proper attention to the development of their chests. How few people that we see actually know how to breathe. In my examinations of supposed healthy subjects for life insurance it is very seldom that the chest has much mobility. When I examine the chest of a phthisical patient I pity most of them for the narrow, undeveloped chest that they possess. My first object is to teach them to expand their chests and allow as much air as possible to get into the alveoli of the lung, so as to properly oxygenate the blood. To show them how to do this properly takes as much care, study and exact instruction as is necessary in prescribing any other therapeutic measure. But by doing this I consider that I am administering to them the best possible tonic, fresh air, free from all impurities and rich in ozone, such being the character of our air at Aiken. Those of you who are not so fortunately situated can give the air as pure as you can possibly get it. By breathing, we understand the systematic expansion and contraction of the chest in order to allow air to enter the lungs, each expansion and contraction together being called a respiration. The diaphragm is the great muscle of normal respiration, and in those chests where we can scarcely see any mobility during the respiratory act it is almost the only one that takes any part. But that is not as it should be, for in every respiratory act the intercostals with the levatores costarum, the scaleni, serratus posticus superior and subclavius should take part. In inspiration after the diaphragm has contracted and increased the cavity of the chest by encroaching upon the abdomen, then the external intercostals should act and rotate outward and upward the anterior portion of the ribs, the levatores costarum now come into play with their fixed point on the transverse process of the dorsal vertebræ, they act upon the ribs below, by raising and rotating them outward. By the action of the external intercostals, and the levatores costarum, the cavity of the chest is increased both laterally and antero-posteriorly. By having the head and neck fixed the three scaleni muscles raise the two upper ribs and make a fixed point from which the intercostal muscles set. The serratus posticus superior with its fixed point at the cervical and dorsal spines raises the second, third, fourth and fifth ribs, the first being raised by the subclavius.

Ordinary respiration is performed as a passive act by the elasticity of the lungs, and the ribs fall to their normal place when the elevators cease to act. The muscles, gentlemen should take part in every respiratory act, and if we will impress upon our patients the necessity of making them act, we will

find that our number of cures from phthisis will be greatly increased. We can teach every one, no matter how weak they are, to use these muscles; it will do them good to exercise and use these muscles of normal respiration.

Now that we come to the muscles of forced respiration, we can not allow a person to use them who has not been accustomed to it, as they will have to be trained gradually; and in those who are very weak they had better be content with performing the normal respiratory act physiologically than run the risk of danger that might accrue from straining the tissue of the lung. The muscles of forced inspiration are the pectoralis major and minor, serratus magnus, latissimus dorsi, and sterno-mastoid. Forced expiration is performed by the abdominal muscles, assisted by the triangularis sterni, serratus posticus inferior, quadratus lumborum and sacro lumbalis. The origin, insertion, and action of each of these are important, so that we can instruct how to exercise them, but I will not delay you with the origin and insertion, for I trust they are as familiar to you as the dose of morphia, and if by chance you have forgotten any one it will be found in any work on anatomy. It is impossible to breathe properly with tight corsets or with the body in a bent over or cramped position, hence these things must be rectified and the patients must be made to hold themselves erect, so as to allow the chest to expand properly. Simply sitting in an arm-chair with the hands upon the arms of it, will suffice for persons who are very weak to exercise the normal muscles of respiration. They can take moderately full respirations, thus exercising the intercostals, levatores costarum, serratus posticus superior and diaphragm. This position for ten minutes three times a day is plenty for one to begin with, and as they feel that they are gaining strength they can take deeper respirations until they almost get to forced respirations.

Finally, I often find it advisable to prescribe some kind of respirator with some medicine to be dropped upon the sponge, not that I think the medicine upon the sponge will help the pulmonary trouble, but the more exact directions you give and the more fully you impress upon the patient the necessity of doing just as you say, the more importance they will attach to the necessity of so doing. The good that I accomplish by the respirator is the systematic and regular expansion and contraction of the chest. The respirator is used at first about fifteen minutes three times a day, and as the patients become used to it, they will wear it for hours at a time, when they are confined to the house. I prefer the fresh air to be inhaled without a respirator when the weather will permit being out of doors. A

very handy and efficient instrument is sold in the shops under the name of Beverly Robinson, for about 40 cents. So much for the chest exercise of those who are suffering from the advanced stages of pulmonary disease. For those who have weak or imperfectly developed chests, we have several forms of exercise that are excellent. One-pound dumb bells, with one to two-pound Indian clubs, using them for fifteen minutes morning and evening, will at the end of a month show wonderful results.

The Dowd exercise apparatus is also an excellent addition to the bed room. You can make the exercise as mild as desired by it, and gradually increase the severity as the patient becomes stronger.

The Delsarte school of physical culture is to be especially recommended, as by its system almost every muscle in the body can be exercised, and the body is rendered flexible and supple. The best single exercise that I know of is the swinging of the Indian clubs; it is not necessary to get heavy ones, but far better to have them light. The different evolutions that one goes through with them exercise fully all the muscles of the upper extremities, the chest and back.

Walking is to be especially praised as being one of the best forms of exercise, but it must be done in moderation, and with every case it is absolutely necessary to tell the patient just how far to walk. My golden rule has always been to tell the patient to walk as far as he can without getting the least tired, for once he feels fatigued, it shows that he has gone too far, and that he is apt to do himself harm by the walk instead of good. But my experience this summer has proved to me that we must be even more exact.

A young college athlete consulted me for a cough that he had had for about four months. Upon examination I found a slight congestion of the apex of the right lung. He was very muscular, and upon my telling him to walk until he felt the slightest fatigue he took a daily walk of twenty miles, with the result of increasing his cough and losing weight. As soon as I found out what his case was doing and ordered him to walk in moderation he immediately began to improve and in a few weeks had lost his cough entirely. With my instructions for walking I always advise exercising the legs by standing upon one and swinging the other. It makes the muscles of the thigh supple.

For persons who are well, horseback exercise is excellent, and to be recommended; but for those who are sick it has to be prescribed with a great deal of care. Not only is it necessary to advise how long the ride should be, but also the speed at which



the horse should go. Right here, let me say, that for a person out of health, the horse should never be taken off his natural gait. Then the horse must be selected, and one must be secured which has an easy gait. Gentlemen, unless your patients are able to get some reliable person who is a good horseman to pick out an animal for them, they had better omit horseback exercise, for I have seen more harm come from it than any other thing. It is a well known fact that stablemen will put a beginner upon a horse that is so rough and stiff that he is nearly shaken to death before he learns to ride. Here in the North you like to ride trotting horses; they are not fit for a patient to get on, and they will do him actual harm. Except in the first stage of the disease, horseback riding had better be omitted for the buggy.

I now come to the cold bath in the morning; and this is one measure upon which I wish to lay the greatest stress. For in one of its modifications every one can take it, and they will derive more benefit from it than anything else. It will prevent catching cold, and gives tone to the system. With a very weak person it is not advisable to do more each morning than bathe the chest with a cloth wet with cold water, and then as they become strong and accustomed to the water, a sponge should be used over the chest and back, allowing the water to run from the nape of the neck down the spine. For patients, and for most persons, this will be found sufficient, but for those who can accustom themselves to a plunge in a tub of cold water every morning, there is nothing better or more invigorating. I have never seen but one patient that I could not accustom to the use of cold water.

My next point should really come under hygiene, but I consider it so important, and without it the physical culture will amount to nothing, that I mention it here. It is free ventilation; and by it I do not mean to ventilate the room every hour or twice a day, as is the usual custom, but I want fresh atmospheric air from the outside continually coming in the room. Care must be exercised that the patient is not in a draught, which can be easily arranged. In our southern houses, with a window slightly raised and an open fireplace, you get a continual exchange of air, the current running from the window to the fireplace. But in rooms where there are no open fires, you must raise the window a little from below and lower it a little from the top. One should always sleep in a room with a free circulation of air, no matter how cold it is; put on plenty of covering, but keep the windows open. And when I tell you that with it 20 deg. below zero I have slept with my window wide open, you see I know what I am ex-

pecting my patients to do. As far as it is in our power we should not allow persons or children to be crowded into rooms where there is not 600 cubic feet of air for each person, and invalids or delicate persons should have 1000 cubic feet.

I am anxious to see the time when there will not be a primary, grammar or high school in this land where physical culture is not taught; and now that several of our academic colleges have added biology to their list of studies, I hope in the near future to see hygiene made a compulsory study. Look at the boards of health in most of our cities; they are composed of men who, for the most part, have not the first idea of hygiene. Then if all our school commissioners were as well up on hygiene as they should be, we should find less pulmonary complaint among teachers and pupils of public schools. The medical department of the University of Pennsylvania is to be especially commended on its experimental school of hygiene, from which we are going to be informed from actual experiment as to the relative value of the different modes of ventilation.

These are not theories, for I have twice been so unfortunate as to have had well-developed phthisis myself. Once, twelve years ago, and two years ago. In both instances I attribute my cure to the directions laid down above. The first time every one thought my policy was suicidal, but now the members of the profession are taking more interest in the development of the chest.

In conclusion, gentlemen, I simply beg you to treat phthisis by hygienic, dietetic and physiological methods. Do not pour every kind of medicine into the victim's stomach simply because some one has recommended it. Never give a drug except for certain results, and if you do not obtain them, drop it. Above all, guard the stomach, it is your patient's key-stone to recovery. Without a good digestion and assimilation no treatment in the world will restore him to health.—  
*Medical Mirror.*

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#### SUBCUTANEOUS INFUSION OF A NUTRITIVE SALT SOLUTION IN CASES OF REFUSAL OR INABILITY TO TAKE FOOD,

By MILTON D. NORRIS, M. D., Assistant Physician Maryland Hospital for the Insane.

Although the intra-venous and subcutaneous injection of large quantities of fluid for the purpose of keeping up the blood pressure has long been practised, I believe the idea of administering nutriment by subcutaneous infusion originated with Dr. George H. Rohé, and was first used in this hospital.

Ilberg and Lehman, in Germany, within the last year report several cases in which good results followed the hypodermic injection of 600 cubic centimeters of a saline solution in the fasting insane, but these gentlemen used a simple salt solution without any actual nutriment.

In the cases I am about to report the solution used was composed of 12 to 14 ounces of sterilized water, to which, after partially cooling, were added the whites of two eggs and 30 grains of common salt. This was filtered through cheese cloth. The resulting liquid had about the appearance and consistency of simple syrup, and would coagulate on being heated. Only the whites of eggs were used, because they do not require any previous digestion, but can be directly assimilated.

An ordinary stomach tube and a medium sized aspirating needle were the only instruments employed in giving the infusion. No force, except that of gravity, was used, and generally only one puncture of the needle was required. The loose tissue over the gluteal region was always selected as the point of puncture and the time required to inject the 14 ounces was never over 15 minutes. The injection of this large quantity of fluid in such a limited area would of course make a considerable swelling, but this would disappear in an hour, and there was not a single case in which any bad effect followed the injection.

The subcutaneous method has the advantage over the intra-venous of a gradual absorption of the fluid, and therefore no danger of overwhelming the heart; besides there is no danger of emboli or the admission of air into the veins, and this method can be used by any one with a little care, while the intra-venous can only be used by the skilful.

The first case was M. J. K., male, aged 50 years. Case of chronic mania who was constantly dirty, noisy and tearing. He had been fed for some time by means of the stomach tube, but became weakened and more emaciated every day. He was given 14 ounces of the fluid at intervals of four days and fed on the intervening days. His appearance and condition greatly improved, and on the day after the third infusion he began to eat, and has given no trouble since.

CASE II.—W. P., male, aged 65, case of dementia, suffering from Bright's disease. At time of admission his pulse was 64 and every attempt to swallow was followed by vomiting. All efforts to feed by the mouth were stopped, and he was given the infusion every day for four days, at the end of which time there was marked improvement, his pulse being 80 and much stronger. He was then able to retain food on his stomach, but

from time to time had attacks of vomiting, and after several months again became so weak that the infusion was repeated, with good results.

CASE III.—T. C., male, aged 18 years, case of acute mania. Admitted January 24, 1893, at which time he was constantly swearing, crying or singing, and biting at every one who came near him. He was in a very weak and emaciated condition, owing to his refusal to eat for several days previously, and was fed the usual quantity of milk and eggs by means of the stomach tube, but soon vomited all he had taken, and during the next 24 hours was not able to keep anything on his stomach, although several attempts were made. All efforts to give food by the mouth were stopped and 14 ounces of the infusion given daily for three days, during which time he received no other nourishment. On the fourth day he was much stronger and perfectly quiet, pulse good, tongue clean and complained of being hungry. He was given food, which was retained, and he ate regularly with a good appetite afterward. This patient has since been discharged from the hospital cured, but I believe he would have died from exhaustion if the infusion had not been used.

CASE IV.—A. E. C., white, female, aged 52 years, case of acute mania. Patient was very violent and was fed with a stomach tube, but this had to be abandoned on account of an abscess involving the mouth and throat. She was given the infusion on three successive days, but died on the fourth day from exhaustion caused by the extensive inflammation of mouth and throat.

CASE V.—E. D., white, female, aged 48 years, case of epileptic insanity. The epileptic seizures occur once in two or three months, and are followed by a period of depression. During one of these depressed periods she refused all food for several days and was given the infusion on three successive days. She improved considerably and began to eat on the fourth day.

CASE VI.—R. L. T., white, male, aged 31 years, case of simple melancholia. This patient refused to eat, and despite persistent feeding with duct and stomach tube he became weaker, and took to bed in a very weak and emaciated condition. His secretions were foul and vomiting occurred frequently. The infusion was given on four successive mornings, and although during this time, over 100 hours, he did not take any food into his stomach, his condition in every respect was better than it was before receiving the infusion. His tongue became moist and clean, pulse stronger and his mental condition was much better. He asked for food, and has so much



improved that he now has liberty of the grounds and will most likely be sent home in a short time. This patient was discharged recovered November 19, 1893.

It is well known to every alienist that certain cases of melancholia with refusal of food not due to delusions will gradually emaciate and die in spite of the most persistent artificial feeding, and it is in these cases that the subcutaneous infusion of nourishment will find its greatest use.

In cases of delirium tremens, where the stomach will not tolerate anything, this method affords an excellent means of keeping up the patient's strength during the three or four days that the stomach is resting; also in severe cases of vomiting of pregnancy, and any case where the stomach must have rest, this method of giving nourishment will be useful.

It has the advantage over rectal feeding of not being so dangerous nor so disagreeable to the patient, and of being more certain in its effects; besides it stimulates the heart and increases arterial tension, which is important in cases that are very low, as most of those will be in which this method is indicated.

I believe this method of administering nourishment can be used to advantage in a considerable number of cases by both the alienist and the general practitioner.

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### TRICUSPID INSUFFICIENCY.

By FRANK J. THORNBURY, M. D., Demonstrator of Bacteriology, University of Buffalo.

“Regurgitation at the tricuspid orifice is generally secondary to mitral stenosis or regurgitation; primary disease of the tricuspid valves, however, is not infrequent.”

The above statement is made by Dr. Wm. Pepper, in his admirable System of Medicine, where he devotes no less than three pages to the discussion of this disease. The valvular lesions which lead to tricuspid insufficiency are similar to those which produce mitral insufficiency. The valves are thickened, shrunk, and opaque; the papillary muscles are shortened and thickened. The valves of the cordæ tendineæ and columnæ carneæ may rupture; in either case, acute and extensive insufficiency results. Acute endocarditis of the right heart is rare in adult life, but when it occurs the *tricuspid orifices are its primary and principal seat*. The first effect of tricuspid regurgitation is dilatation of the right auricle; following this there will be more or less hypertrophy of its walls. As soon as the valves in the subclavian and jugular veins are no longer able to resist the regurgitant current, jugular pulsation follows. The

tributaries of the inferior vena cava, and the organs to which they are distributed, become greatly engorged. The liver may present pulsation and, later, assume a nutmeg character in consequence of the continued, chronic congestion. The skin takes on a dingy yellow hue, which combined with the cyanosis gives a peculiar greenish tinge that is only met with in heart disease. The condition which I designate *cyanotic induration*, occurring more often under other circumstances, may also be present in this disease. This gives rise to a gastro-intestinal catarrh, or, perhaps, hemorrhoids, which, with ascites, speak for congestion within the abdominal cavity. The spleen becomes enlarged, ordinarily. The kidneys often show cirrhotic changes. Œdema of the lower extremities and general anasarca may develop. The obstruction to the systemic circulation may cause hypertrophy of the left ventricle, by an extra amount of work being thrown upon it. Then we have disease of the left ventricle consecutive to that of the right heart.

The symptoms in tricuspid insufficiency, whether the disease be primary or secondary, are for the most part those which pertain to derangements of the abdominal viscera. There may also be present palpitation, cardiac dyspnœa, and irregularities in the force and rhythm of the heart's action.

Gastro-intestinal disturbances are very common. The latter comprise dyspepsia, nausea, vomiting, or hematemesis. There may be constipation or hemorrhoids. The urine is often high-colored and scant, sometimes containing albumen or casts. Cephalalgia, dizziness and vertigo may be present as indications of cerebral congestion (passive), and there is a peculiar *mental* disturbance which Pepper regards as *characteristic* of tricuspid insufficiency.

Of special importance in this disease is the possible disastrous consequence of the assumption of the horizontal posture, as illustrated by the following case. The patient taking the recumbent posture may become cyanosed, and, remaining long recumbent, stupor, coma, and even death may supervene. This fact may be called upon to explain why people are sometimes found dead in bed with heart disease, the case being, perhaps, one of this peculiar type.

According to Dr. Pepper, in no other form of valvular disease is the area of cardiac impulse so markedly increased as in extensive tricuspid insufficiency. This area sometimes extends from the nipple to the xyphoid cartilage, and it may reach as high as the second right intercostal space. Not only the jugular veins pulsate, but also those of the face, arms, hands, and even of the thyroid gland and mamma. The apex beat of the heart is indistinct, and there is commonly epi-

gastric pulsation. Sphygmographic tracings of the pulse show it to be dicrotic.

The area of cardiac dullness, as revealed by percussion, sometimes reaches the second intercostal space. Auscultation elicits a murmur which is synchronous with, or takes the place of, the first sound of the heart. It is superficial, of low pitch, blowing, soft, and heard best directly over the valves between the fourth and sixth ribs.

The distinctive features of this murmur, as compared with that due to aortic or pulmonary stenosis, or to mitral regurgitation, are, first, its location; second, its character; third, its point of maximum intensity near the base of the ensiform cartilage, and, fourth, the absence of any associated accentuation of the second sound. The presence of jugular and epigastric pulsation are what give weight to the diagnosis in this disease.

In connection with this presentation of the subject, I desire to report the following case of tricuspid insufficiency, with autopsy:

S. G., male, æt. 35 years; single; an American; a farmer by occupation. He gave the following history: had rheumatism four years ago, and was now suffering from "heart and liver disease." There had been progressive weakness for the past six weeks, which, together with shortness of breath and irregular heart's action, necessitated discontinuance of work. There had been œdema of the feet and general anasarca, which subsided under treatment. Present condition: patient fairly well developed, of medium height and weight; physique, poor; expression of countenance, haggard; pulse, very feeble and irregular; area of cardiac impulse enormously enlarged, and its outline imperfectly defined. Patient was intensely dyspnoëic, and suffering from great mental anxiety. He had walked a long distance prior to coming under observation. He now laid down, and, upon doing so, immediately died.

Autopsy, fourteen hours after death, revealed the following conditions: body that of an adult male, about thirty-five years of age, well developed; poorly nourished. Rigor mortis is present. Some post-mortem staining. Thoracic organs: heart enormously hypertrophied, especially upon its left side. Right auricle and ventricle very much dilated. The tricuspid (right auriculo-ventricular orifice) extremely enlarged, admitting the tips of four fingers, the valves being incompetent. Ante-mortem clots were found in the ventricles of the left side. Liver, intensely congested; lungs, hyperemic and œdematous. Other organs normal.

## COCAINE POISONING.—REPORT OF CASE, WITH ALARMING SYMPTOMS.

By ALBERT R. BAKER, M. D., Cleveland, Ohio.

Mrs. O., referred to me by Dr. Sihler, of Cleveland, for obstruction of nasal duct and dacryo-cystitis of long standing. Preparatory to slitting the canaliculus, I put into the eyes two drops of a 6 per cent. solution of cocaine. The cocaine used was in the shape of the soluble tablets for making extemporaneous solutions, prepared by Sharpe and Dohme, of Baltimore, and the solution was prepared and used by myself in the morning of the same day upon a boy about twelve years of age, with strabismus. Although fifteen or twenty drops were used in this case there was no symptom of poisoning. After waiting two or three minutes the canaliculus was slit and three drops injected into the lachrymal sac. I then attempted to pass a lachrymal probe. Patient complained of pain, and three more drops were injected, making eight drops in all. Almost instantly the patient complained of feeling queer, commenced talking incoherently, soon became unconscious and commenced having clonic convulsions of all the extremities. Respiration became frequent and sighing. The face was flushed, the pulse became somewhat accelerated and irregular, sometimes 120 to the minute and in a short time running down to 50; but it was at no time very weak. The convulsions lasted for over two hours. Inhalations of ammonia and later on of nitrite of amyl were tried without any apparent benefit. As the patient was unconscious and it was found impossible to compel her to swallow, a hypodermic injection of brandy was given.

As the patient emerged from the unconscious condition she became wildly delirious, requiring the constant services of two or three medical students to prevent injury to herself or others. Her mind was filled with the most extravagant hallucinations, in many respects resembling that produced by poisoning with duboisine or cannabis Indica. At one time she would see many objects on the floor, at another be earnestly sewing, and then she would imagine we were trying to do her bodily harm, all the time talking and gesticulating as vehemently as in acute mania. These symptoms continued for about six or eight hours and were so persistent and violent that we did not feel justified in removing her from the office before 9 or 10 o'clock in the evening. She slept but little during the night, suffered somewhat from headache the following day, but otherwise recovered completely. As soon as she could swallow, aromatic spirits of ammonia were given, also strong coffee and inhalation of ether was tried sparingly to control the violent maniacal symptoms.



It is possible that a more heroic use of this remedy or even a hypodermic injection of morphine might have allayed these very embarrassing symptoms. One of the most persistent hallucinations was that we were delaying her for improper purposes. Although I could not find that there were any erotic symptoms, as one physician thought who happened to call at the office during the height of her delirium. This observation is of interest in connection with the following case:

Dr. C. W. Richardson in the *Journal of the American Medical Association*, 1888, reports a case of cocaine poisoning in which there were some very peculiar symptoms. In a well-developed, well-nourished married woman, 25 years of age, with one child, five drops of a 10-per cent. solution were injected into the septum of the nose. In a very few minutes the patient, to the disgust, surprise and consternation of the patient's lady companion, began to manifest the most remarkable and decided evidence of erotic excitement, both by actions and words.

Although I have used cocaine in very large quantities almost daily ever since it was brought to the notice of the profession, this is the first case in which I have had any very alarming symptoms of poisoning and, consequently, I was very much surprised, to say the least, to have such unusual results from such a small quantity of the drug; not infrequently I have had patients complain of nausea, a cold sweat start from the forehead, the lips become pale and, when cocaine was used in the pharynx or larynx, some temporary interference with respiration; but upon placing the patient in a horizontal position these symptoms have all passed away in a few minutes. I have usually attributed these phenomena more to the effect of fright or the sight of blood than to the cocaine; but in the light of the present experience and my more extended examination of the literature on the subject I am inclined to think that the use of the cocaine had more to do with the production of these symptoms than I had heretofore supposed. In fact I am now led to look upon these symptoms as serious manifestations of poisoning.

I believe that the profession have not reported fully enough their unfortunate experiences with cocaine. In order to bring the matter before you in a somewhat more graphic manner I attempted to collect and tabulate cases of cocaine poisoning, but I soon found this a task of such herculean proportions that I was obliged to abandon it. There have been over 400 cases of poisoning reported from this drug. I have been able to collect reliable data of only ten cases in which death has resulted as to exact age, dose, symptoms, etc. I have found altogether

twenty-one cases of death reported, but in eleven of these the reports were too meagre for tabulation. I have no doubt but that many deaths have occurred which have not been reported. —*American Journal of Ophthalmology*.

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#### CREASOTE IN LATENT TUBERCULOSIS.

Dr. Blanchard, of Geneva, recently reported the results in seventeen cases of latent tuberculosis. All the patients made a rapid and complete recovery. The symptoms were cough, with or without muco-purulent expectoration, emaciation, dyspnœa, general weakness, diarrhœa and night sweats. The creasote was administered in an emulsion consisting of sweet oil of almonds, the beaten yolk of an egg and ten ounces of water. The dose was, at the beginning, 4 minims, being gradually increased to 30 minims. When the dose exceeded 15 minims, it was divided, and administered in two or three enemata. The conclusions to which Dr. Blanchard arrives are as follows:

1. Pulmonary tuberculosis is curable.
2. Creasote is a valuable remedy, especially in incipient cases.
3. It is important that the diagnosis should be made early, to give this mode of treatment a fair chance.
4. The remedy is also valuable in cases of bronchial catarrh, following influenza, which are regarded by Dr. Blanchard as cases of incipient phthisis.

No unpleasant symptoms followed the use of this drug when properly used.

The writer has for several years made extensive use of creasote in the treatment of tuberculosis, and with excellent results. In a case examined about six months ago, the disease had advanced to a stage of extensive consolidation of the upper portion of the right lung. Several hæmorrhages had occurred, night sweats had occurred, the patient was extremely weak and anæmic. Creasote was administered by enema in ten to twenty minim doses for several weeks. When seen a month ago no trace of the former disease could be found. The patient was in excellent health.

In the use of creasote the precaution should be taken to examine the urine frequently by the chloride of iron test, and to note the occurrence of a smoky appearance. In cases in which the urine becomes smoky, the remedy should be administered only on alternate days.—*Modern Medicine and Bacteriological World*.

## RELATION OF TUBERCULIN TO THE BLOOD CELLS.

Dr. Edward Maurel, as the result of recent experiments (*Midi Medical*) finds that tuberculin, in the doses in which it is already employed therapeutically, has no sensible effect upon either white or red blood cells. His experiments also show that human leucocytes are able to resist successfully the bacillus tuberculosis, and that it is only necessary to attenuate the bacillus to a slight degree to enable the leucocytes to destroy the microbe. The experimenter suggests that it is only necessary to discover some agent capable of doing this to cure one of the most dreadful maladies with which the human race is afflicted.—*Modern Medicine and Bacteriological World*.

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## GANGLIONIC FEVER.

Dr. Moussons reports two cases of this disease, which was described by Pfeiffer in 1889 and Stark in 1870. The disease is said to occur in children between two and ten years. After a few days of malaise there is a sharp fever, accompanied by restlessness, headache and vomiting. There is pain on movement of the neck, and difficulty in deglutition. On examination of the sides and back of the neck a great number of engorged glands are discovered; they are tender, moderately enlarged, and distinct one from the other. Sometimes the enlargement is unilateral, but almost always it is bilateral; sometimes the submaxillary region is also involved. After a few days all the symptoms are less intense, a little fever may persist with hacking cough, some pain in the abdomen in the region of the umbilicus; finally there is obstinate constipation. One recognizes at once the enlargement of the lateral and posterior cervical glands, while those of the axilla and groin are normal. The liver and spleen may be slightly enlarged. There is often great emaciation and loss of strength. The author has noted in his cases some prolongation of the breath-sounds. In his case there was a distressing cough, which, with change in the breath-sounds, was supposed to be due to enlargement of the peritracheal glands. The cause of the disease is unknown. Stark believed it to be directly due to constipation, which favored the absorption of toxic material from the intestinal canal.—*University Medical Magazine*.—*Medical Record*.

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## THE MODERN AND HUMANE TREATMENT OF THE MORPHINE DISEASE.

By J. B. MATTISON, M. D., Medical Director, Brooklyn Home for Habitues.

Obersteiner, the eminent Austrian alienist, writing, in 1883, of the morphine disease, declared: "Quite an incredible

number of our colleagues have fallen victims to it, and many have only just escaped." History has repeated itself along this line during the last decade, with startling and sorrowful frequency, and the end is not yet; for it is a well recognized fact—which my own experience fully and increasingly attests—that among our own profession morphinism finds its favorite victims. Granting this, no apology is needed for bringing this trite—to many it may be—topic before a congress of medical men, some of whom have, it is safe to say, a more or less direct, personal, perchance painful interest in the question it involves.

For nearly one-third of a century this disease has had a place on the list of toxic neuroses. During many of these years it was added to largely, almost wholly, by the favorite form of subcutaneous medication; a method facile, yet often fatal, but which, happily, is now, in my opinion, decidedly on the decline. While felicitating ourselves that the progress of this destroyer is less rapid than in days ago, we can not ignore the fact that it is still with us, and that whatever holds out the promise of undoing the mischief it has done, whatever gives assurance of ending, or even lessening, the ruin it has wrought, must have a claim upon our interest, and make worthy the best effort at our command.

It is now nearing a quarter century since a case of this disease first came to my care. For most of these years my attention has been exclusively devoted to its study and cure, with a result that warrants me in asserting at no time has the treatment been so simple, satisfactory and successful as now.

The modern and humane treatment of the morphine disease—pre-eminently an American plan—is compassed mainly by three drugs—bromide of sodium, codeine and trional. These form a combination of unrivaled value, if properly used, in proper cases, and, with certain minor aids, make a method far in advance of any yet presented to accomplish two leading objects—minimum duration of treatment and maximum freedom from pain.

In 1876 the attention of the profession was invited by the writer to a new application of the well-known power of the bromides to subdue reflex nervous irritation, by commending the use of bromide of sodium in this disease after a plan quite original, which consisted in giving it in gradually increasing amount, often enough to secure the effect of a continuous dose, for six to ten days, during which time the habitual opiate was to be gradually but entirely withdrawn, the object being to secure by this preliminary sedation a maximum sedative influence from the bromide at the time of maximum nervous irritation from the opiate ending.



This, too, was the origin of what is known as the "rapid method," and history will attest the writer's claim to whatever of merit it may have, though, by many, it has been placed mistakenly to the credit of a foreign physician. This plan, a mean between two extremes, avoiding the painful ordeal of abrupt disuse, and the tiresome delay of prolonged decrease, was correct in theory, and in practice proved a success.

The preliminary sedation feature of this method consists in giving the bromide of sodium in initial doses of 30 grains, twice daily, at 10 A. M. and 10 P. M., and increasing this dose 10 grains each day, *i. e.*, 30, 40, 50, 60, etc., until a maximum of 100 grains, semi-daily, is reached on the eighth day. On the ninth and tenth days, this maximum 100-grain dose is given in the evening only.

This giving of the bromide applies solely to typically eligible cases. With some it is clearly contra-indicated, with others a minor degree of preliminary sedation will suffice; and with all patients this rule governs, each case is a law unto itself, and the length and the amount of the bromide giving, and consequent rate of opiate decrease, is determined entirely by individual peculiarity, as shown both before and during treatment. This must not be forgotten; brains must be mixed with the bromide. This is a point of prime importance, and failure to put it in practice will account for ill success.

Of the value of the bromide thus given, to counteract and control the nervous symptoms usually incident to the morphine ending, there is no question; and it is the absence of this special feature that makes the Erlenmeyer plan, which is complete opiate quitting in two to ten days, inferior to the method we commend.

During this time of bromidal medication no other treatment is called for, usually, save a tonic regimen, and such regulation of gastric, renal, and alvine functions as each case may seem to demand, in this respect being markedly and favorably in contrast with any method that does not include preliminary sedation, and which makes essential various anodynes, sedatives, stimulants, and hypnotics during the opiate decrease, if the patient's comfort be conserved. For full details of this opiate-quitting régime, see paper by the writer, "The Mattison Method in Morphinism."

Having secured the desired sedation and reached the end of the morphine-taking, whatever reflex symptoms present are met, mainly by codeine. This is the second special factor in the modern treatment of morphinism. And it is no excess of assertion to declare that it has revolutionized the therapeutics of this disease. With it, the ordeal of quitting a long-used opiate

is robbed of its terrors, and it comes nearer to making a "royal road" to freedom for the captive morphinist than anything now at command.

Of this therapeutical triad, codeine is the most important, for it can be used with good in all cases, whereas some will present in which the bromide should not or need not be employed, nor is trional essential.

Codeine may be given pure, or in either of three salts—phosphate, muriate, or sulphate. Pure codeine is not fitted for subdermic use. It dissolves with acid and may be given by mouth. Of the salts, the muriate and phosphate are richest in codeine—80 and 76 per cent.—and the phosphate is freely soluble. My usual solution is six grains to the drachm. The sulphate dissolves in boiling water, two grains to the drachm. The dose should be one to three grains by mouth or skin, every two to four hours, according to case or condition, and continued in a gradually decreasing dose and increasing intervals till no longer required. The dose by stomach should be double that by skin. As a rule, codeine is not called for till after the entire morphine-quitting. If needed earlier, it should be given.

Cases will present in which the bromide need not or should not be used. In these codeine, with, may be, some hypnotic, a few nights, will serve every purpose.

The credit of first commending codeine in morphinism belongs to an American physician—Lindenberger, of California—who, in 1885, claimed for it merit after a method of his own. Later, Schmidt, Fischer and Rosenthal, abroad, asserted its value, and my own experience, large and enlarging, makes me regard it my most valued aid.

For larger details along this line, *vide* the writer's paper, "Codeine in the Treatment of the Morphine Disease;" reprint if desired.

The third factor in this modern method is trional. Of hypnotics this is the latest, and in treating narcotic habitués the greatest. There is no doubt of this. I have given it hundreds of times, and say whereof I know. It is better than sulphonal—its nearest rival, and which, till the advent of trional, led the list of hypnotics in this condition—having an effect more certain, pronounced and prolonged. My usual dose is forty grains for males and thirty for women, given dry on the tongue at 7 P. M. in the evening, after the last morphine-giving. It is largely soluble in hot water, milk, soup, or tea, and thus taken, acts quite promptly. It is not only *the* soporific in these cases, but is markedly sedative, and so serves doubly for good. We use it exclusively during the first six or eight

nights, decreasing it gradually to half the initial dose, and then, if needed, resort to chloral, paraldehyde, or cannabis. Some cases do not require it. One of the most striking ever under my care, now making a good recovery, has done notably well without it, codeine phosphate having secured several hours sleep each night. My opinion, steadily growing, of trional in the insomnia of morphine habitués, is that it is the most valuable soporific we now possess. See my paper, "Trional, the New Hypnotic; its use in Narcotic Habitués;" reprint on request.

Such are the main measures in the modern treatment of the morphine disease. Minor symptoms along various lines will, at times, present, to be met, as they can be, and effectively, as they seem to demand. Treatment must needs be varied, as case requires. The patient as well as his disease must be treated. Details need not detain us. They are at command of any who desire, in the paper first cited: "The Mattison Method in Morphinism."

Regarding humane treatment, a brief statement of fact and this paper is ended. In 1879 Levenstein presented his "Morbid Craving for Morphia," a book valuable along some lines, but harrowing in its gruesome tale of suffering incident to his plan of treatment. Since then this method—abrupt and entire disuse—has found favor with some medical men, who, from ignorance or disregard of distress—either of which is without excuse—have been led to commend it. These men, misguided and mistaken, may mean well, but they fail to appreciate the sorrow their counsel entails, and it is safe to say, were they forced to run the gauntlet of such suffering, were they bound to the rack of such torture, there would be a rapid and radical change of opinion.

Levenstein's grim tale—cold and terse as a hardware catalogue—of the tortures through which the patient passes, the days and nights of writhing, the sleeplessness, the restlessness, the thirst, the endless vomiting and purgings; his vain pleadings for liberty, for morphia, for anything which will relieve the intolerable anguish—are fairly burning with their burden of tragedy!

In 1883, an American physician, T. L. Papin, said: "Suppose your patient is habituated to the use of morphia, how will you cure him? Let him quit short, absolutely, and entirely. If he have the will power, trust him: if he cheats, lock him up; put a Hercules over him as nurse. All substitutes are simply a prolongation of the agony he must go through. The patient who quits morphia suffers from insomnia, diarrhœa, nausea, vomiting, achings, and debility to such

a degree that it is a marvel how he lives. All this suffering will last five to ten days. No medicine will do any good; the stomach rejects everything, even a mouthful of cold water. At last, after several centuries of torture, little by little, and without medicine or substitutes, nature accomplishes the cure. This terrible treatment, I am sure, is not only the best, but the only safe one to cure and secure the patient against a relapse."

Well may one stand amazed and aghast at the "cruelty" of such "ignorance," and well may Bartholow declare, "Having had one experience of this kind, I shall not be induced to repeat it; if for no other, for strictly humanitarian reasons, since the mental and physical sufferings are truly horrible."

In 1888, a teacher in one of the leading medical schools—J. C. Wilson, University of Pennsylvania—in a clinical lecture, commended this treatment: "The patient is put to bed, and the physician administers the drug hypodermatically. During the first twenty-four hours the dose should be that he is in the habit of taking. The next day the dose should be diminished one-half, and by the fourth day the dose may be entirely stopped. As soon as the physical effects of the morphia which has been taken, pass off, there is a relaxation of the vaso-motor system of the intestinal tract, with a pouring out of fluid into the intestines and stomach, with copious vomiting and free diarrhoea, often colliquative. There is intense craving for the drug. There is marked nausea and inability to take food. There is complete sleeplessness, and, sooner or later, delirium appears, and this is often attended with tremor. Finally, the delirium may become intense and active, and during this period there is danger of sudden heart failure and collapse, which in some cases have proved fatal.

"With reference to the necessity for this sort of treatment, it may be said that it is desirable to undertake it in every instance where you can prevail upon the patient and his friends to submit to it. It is not without much suffering and some danger. There are cases in which, from heart failure, the danger to life is so great, you must abandon the attempt."

Sorry, indeed, the lot of a hapless morphinist under the care of any physician so lacking in skill or feeling as such counsel implies; and, verily, a teacher like that has mistaken his calling along this line, and should limit himself to a field in which larger knowledge and broader experience gives his counsel greater weight.

In 1893 another American doctor, E. P. Hurd, in a paper on "The Erlenmeyer Treatment," wrote: "The method contemplates and seriously attempts the entire withdrawal of morphine in about a week, the daily dose being first cut down



one-fifth, then two-fifths, then three-fifths, then four-fifths, and so on till none is given. *During the period of withdrawal* (italics mine) the place of the morphine is supplied by various stimulants, narcotics and hypnotics. It may be necessary during the first week to give large quantities of whiskey, almost to intoxication; chloral and sulphonal in large doses, quinine and strychnine, will also be needed to meet indications. After the last dose of morphine has been given the patient will be in a condition of great depression, and powerful stimulation will be required for a few days; sometimes diarrhœa or collapse will indicate the necessity of a temporary resort to morphine or to deodorized laudanum. Then, when the patient is sufficiently weaned from morphine, the task is begun of weaning him from the drugs and from the alcohol by a tapering off plan, which will require about three weeks. Naturally, it is a month of anxiety to the physician, and of trial and suffering to the patient."

What a travesty on rational therapeutics! If such be the "Erlenmeyer treatment," the less of it the better. In justice to this eminent German physician, whom I personally know, I am bound to say I do not accept it as his method.

Modern medicine has done much for human relief of the hapless morphinist, but that ignorance of this advance still obtains, the following extract from a letter recently sent me by the writer last cited—Hurd—will well attest. He wrote: "If you, or any other man, or an angel from heaven, were to tell me that the morphia 'habit' could be cured without great physical suffering, I would reply that this is intrinsically and scientifically 'improbable!'" What presumption! this in the face of his further statement: "I am free to confess myself only a novice and learner, and have not yet passed beyond the state of tentative experimentation for that of positive and scientific certainty." Let me assure this gentleman and all other like sceptics, that the time of "tentative experimentation" in the therapeutics of the morphia disease, has *gone*; the day of "positive and scientific certainty" has *come*.

The Levenstein method is crude in theory and cruel in practice. It is brutal—utterly unworthy a healing art—and only to be described to be denounced. It incurs the risk of a fatal ending, has killed more than the world will ever know, and brought many perilously near to death. It has no claim to merit, either in abridging treatment or preventing relapse." Most of Levenstein's patients had return of the disease, "notwithstanding the unwarrantable tortures to which they were subjected."

No valid excuse can be offered for its practice, save in rare cases, where conditions are peculiar and quite beyond

control; and any physician so ignorant or inhumane as to counsel and compel it, except under such conditions, deserves to be made defendant in a suit for malpractice. The Erlenmeyer method, while less distressing and disastrous than the Levenstein, entails much suffering that can be avoided. It has no special merit as effecting rapid or radical cure, and does not, in any way, well compare with the humane method we commend.

Quite apart from the merit of this humane method on the score of humanity, it has another bearing which is far-reaching and important. There can be no question that the dread of such suffering as attends the largely held idea of escape from the thralldom of morphia is a decided bar to many an effort in this regard. Many think escape only possible through prolonged distress, and, despit's a consummation devoutly wished, prefer to bear the ill-they have. A notable case in proof is recalled. Fifteen years ago a naval surgeon, three years a hypodermic morphia taker, first consulted me. Six years later he came to my care, and avowed the reason of his delay was the reading of Levenstein's book, and fear of such suffering as that treatment entailed. This gentleman made a surprisingly good recovery, was dismissed on the thirty-second day, and has remained—nine years—well.

When the practice of this humane method more largely obtains, we shall note a steady increase in the number of expoppy habitués.

Mr. Chairman, this paper is a plea for merciful measures, to release from a galling bondage—made such by force of conditions beyond control—many who are deserving of deep commiseration. These measures are surely at command, and the medical man who does not, or will not, so acquaint himself, had best consign such cases to other care. Few advances in modern therapeutics have been more marked than the one to which we refer; and the writer is both glad and grateful that it has been his privilege to proffer humane help to many bearing the grievous burden of this phase of human ill.—*New York Medical Record*.

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#### A CASE OF PAINLESS LABOR.

By THOMAS J. LARKIN, M. D., New York.

On November 24 I attended a case of labor, the conditions of which I have deemed sufficiently notable to report.

The patient, Mrs. M., aged 29 years, was a large woman weighing over 200 pounds. She was the mother of three chil-

dren, and gave the history of her former labors thus: First child was born in twenty minutes from the time of first pain; second labor lasted three hours, and the third two and a half hours. None of the previous labors had been protracted, but all had been accompanied by the usual sensation of pain.

The children, aged five years, three years, and thirteen months, respectively, are all living. Upon my arrival at the house, at 10 P. M., she complained of feeling nervous, and announced that "the waters had broken at 9:30," but she had no pains. During the previous day she had had a pain in the back, which lasted but a short time and disappeared after the application of camphorated oil. Upon examination I found the os dilated to the size of a silver dollar and the head in the median line. After waiting thirty minutes, during which time there had been no pain experienced by the patient and no sign of uterine contraction, a second examination discovered the cervix obliterated and the head in the vagina. Fifteen minutes later, at 10:45, the child, a boy weighing ten pounds, was born, the placenta following in ten minutes.

At no time during the labor had there been any sensation of pain, nor could the most careful palpation detect any evidence of uterine contraction. The thickness of the adipose tissue upon the abdomen prevented the most thorough uterine palpation; the after-history of the case was uneventful except for a complete relaxation of the uterus, which caused the fundus to ascend higher than the umbilicus. This was unaccompanied by flooding, however, and was overcome by strychnine sulphate, grain  $\frac{1}{10}$ , three times a day. The complete absence of pain and apparent absence of uterine contraction render the case noteworthy.

There was no loss of sensation in any other part of the body.—*Medical Record*.

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## Deaths.

DR. R. B. S. HARGIS, OF PENSACOLA, FLORIDA.

In the death of Dr. R. B. S. Hargis, Florida lost one of the most devoted and progressive of her citizens. The following sketch may serve to give an idea of the work accomplished in a long and useful life, and the JOURNAL joins with the profession in Florida in lamenting the loss of a useful fellow-laborer:

Robert B. S. Hargis, of Pensacola, Florida, was born in Hillsborough, North Carolina, June 7, 1818, and is of Scotch-Irish and Anglo-Saxon descent. He received his preliminary education at the University of North Carolina; studied medicine three years in Fayetteville, in the same State, under the preceptorship of Dr. T. J. Jordan, and was graduated with honors from the Medical College of Louisiana (now the Medical Department of the Tulane University, of New Orleans, La.), March 21, 1844. He located in Mobile, Alabama, in 1845, where he practised one year; had a severe attack of malarial fever, which compelled him to repair to the country to recuperate; sojourned at Mount Pleasant, Alabama; secured a large and remunerative practice there; remained there five years; married in the meantime, his wife becoming in poor health, and removed on that account to Pensacola, Florida, in September, 1851. There he obtained an excellent practice, and in 1852 was appointed Port Physician, which office he held for several years. Yellow fever having been introduced into Pensacola about August 1, 1853, his professional labors were thereby very largely increased. While busily engaged attending the sick he was seized with the disease on the 25th of the same month, and was sent immediately by his friends to Milton, Florida, where his family were temporarily sojourning. Having recovered, and the yellow fever having been introduced there, by the earnest appeals of the citizens of Milton and adjacent villages he resumed practice and continued until the epidemic ceased (on or about the 15th day of the following December). During the epidemic his diligence and kindly ministrations to the sick obtained for him a high reputation and the gratitude of the people. In May, 1854, an United States Marine Hospital was established in Pensacola, and he was appointed surgeon of the same in June of the same year. He held that position until the secession of Florida from the Union, which took place in 1861, when the institution was necessarily suspended.

He afterward, in 1861, took service as a medical officer in that part of the Confederate States Army under Gen. Braxton Bragg, stationed at Fort Barancas, Florida, and held a commission afterward as surgeon until the end of the war. He made himself conspicuous unconsciously for his kindly ministrations to the wounded prisoners of the enemy, and thereby won their lasting gratitude. He returned to Pensacola in 1865. In 1868, associated with Dr. J. C. Whiting, he established the Pensacola Hospital, now still in successful operation. In 1878 he became a member of the Florida Medical Association, and elected president thereof in April, 1882. He was elected a member of the American Public Health Asso-



ciation in 1878, and became one of the advising council in 1880. In 1881 he was appointed a member of the Board of Health of Escambia county, was elected president thereof, and resigned after two years' service. In 1882 yellow fever was again introduced into Pensacola, and he again distinguished himself by his untiring devotion to the sick. He was appointed by the National Board of Health to conduct the investigation of the yellow fever of that year with Dr. William Martin, of the United States Navy. In 1883 yellow fever broke out at the Navy Yard, and at the earnest solicitation of the officers and men stationed there, he was appointed by the Secretary of the Navy to attend the sick at that post, which he did faithfully. Dr. Hargis was appointed Acting Assistant Surgeon to the United States Marine Hospital May 26, 1885, which office he held at the time of his death. He was appointed by Governor E. A. Perry to represent the State of Florida at the Gulf State Quarantine Convention, held in New Orleans July 2, 1885. In 1889 he was appointed a member of the Board of Medical Examiners for the First Judicial District of Florida, and elected president, which position he held at the time of his death.

His contributions to medical literature have been very extensive, and the following constitute the most important: "Medical Olla Podrida," 1857; "Communicability of Yellow Fever," *New Orleans News and Hospital Gazette* for January, 1859; "Eclampsia in a Primipara, Embriotomy, Recovery," *North American Medico-Chirurgical Review* for July, 1860; "Observations on Persistent Priapism, with a Case Treated Successfully by the Bromide of Potassium," *NEW ORLEANS MEDICAL AND SURGICAL JOURNAL*, July, 1869; "The Muriated Tincture of Iron a Specific for Erysipelas," *The American Medical Bi-Weekly*, Louisville, Kentucky, March, 1877; "Contused Wound of the Perineum, Involving Urethra and Scrotum—Bladder Aspirated Every Day for Six Days—Septicemia—Recovery," the *American Medical Bi-Weekly*, April, 1879; "History and Origin of Yellow Fever—Its Cause, Communicability and Prevention," read before the American Public Health Association, 1879, and published in Report and Papers of the American Public Health Association, 1880; "Report on Medical Topography, Climate, Diseases and Mortuary Statistics of Pensacola," *The National Board of Health Bulletin*, July, 1880. Letters to *The Sanitarian*, New York, on "The Nautical Origin of Yellow Fever," *Gaillard's Journal* for June, 1880; "Yellow Fever—Its Ship Origin and Prevention," a treatise published by D. G. Brinton, M. D., Philadelphia, 1880; "Sketches of the History

of Quarantine at Pensacola, Florida," *National Board of Health Bulletin*, 1881; "Yellow-Fever Recognition and Isolation," read before the American Public Health Association, 1881; "The Genius of Medicine," an address presented to the Florida Medical Association April, 1882, published in the *NEW ORLEANS MEDICAL AND SURGICAL JOURNAL* for August, 1884; "The Natural History of Plagues," an address to the Florida Medical Association, 1887; "The Topical Application of the Oil of Turpentine to Recent Wounds, with Observations Relating to the Germ Theory of Diseases," *Philadelphia Medical News*, March, 1888. He has also contributed many other papers of more or less importance to different medical periodicals, as well as various articles from time to time that were published in the secular press on "Yellow-fever Quarantine," "Public Hygiene," "City Sanitation," and subjects connected with the collateral sciences and general literature.

#### RESOLUTIONS OF RESPECT.

At a meeting of Pensacola Medical Society, held Thursday, November 30, 1893, the following resolutions were unanimously adopted:

It is a dreary and melancholy pastime to stroll among the mouldering ruins of time and mortality as they mock the struggling energies of men and silently spread the pall of dark oblivion over the carefully guarded treasures of monumental greatness.

But it is a cheerful thought that the same principles that govern us now, and the same bonds of fraternity that unite us, once had full sway over our silent friend. That pale and bony hand has held the patent good of the President's chair, and beneath that stilled breast there was a heart that loved and trusted us, and was in return entrusted and beloved by us.

The truth and the labor of our friend will survive the grave, with its moth, rust and corruption. Death has crushed his body, but his good deeds and charities will be enjoyed by generations yet to come.

It is delightful and lifts our spirit to contemplate what has been done by known power. Industries, the arts and sciences, have grown around him; not less sublime have been his attainments in the moral world. Man has opened up new channels of human sympathy, and learned the heavenly art of healing the fountains of earthly sorrow, distress and disease.

Brethren, to-day as soldiers in a common cause, we come with friendly but faltering accents to drop a filial tear over all that is mortal of Dr. Robt. Bell Smith Hargis. He was the Nestor of our profession. A steward of whom we felt proud.

We feel a common and sacred bond with him that was unbounded by any selfish or petty interests. His life girdled every interest of virtue and hope and it culminated in the domination of charity that survives faith and is the greatest of all.

Our aged brother was with us in the reorganization of this society and since that day many changes have been wrought. Once before has death darkened this hall. One young and strong was summoned to bring up his work. This white haired master has handed to us, his sons, an emblem of his office in this hall, "and crossed over the river to rest in the shade." One after another those honored portraits ascend to their place on the walls of our hall, from which they anxiously look down on our meetings, to see that brotherly love prevails, and that we are indeed a band of brothers.

*Resolved*, That in the death of R. B. S. Hargis, this society has lost an honored and useful member, society a benefactor, and his family a kind and indulgent father.

*Resolved*, That we tender our sincere sympathy to the members of his bereaved family.

*Resolved*, That this society attend the funeral of our brother in a body.

*Resolved*, That a copy of these resolutions be sent by the secretary of this society to the family of our lamented brother, and that a page be set apart in our minutes as a memorial of our esteem; also that these resolutions be printed in the daily press of our city.

C. R. OGLESBY, M. D.,  
H. L. SIMPSON, M. D.,  
A. A. GILLIS, M. D.,  
*Committee.*

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WILLIAM B. TOWLES.

William B. Towles, late Professor of Anatomy and Materia Medica in the University of Virginia, was born March 7, 1847, at Columbia, Fluvanna county, Va.; entered this university as a student of medicine Oct. 1, 1857; and was graduated with the degree of Doctor of Medicine in June, 1869. On Oct. 1, 1872, he returned to the service of the university as Demonstrator of Anatomy, and on the death of the revered and lamented Dr. John Staige Davis in 1885 was appointed his successor. He died September 15, 1893, upon the opening day of the seventieth session of the university, after an illness of a few hours.

His one and twenty years of service form an epoch in the teaching of anatomy in this university and in America. The

accuracy and abundance of his knowledge, the ardor and luminousness of his exposition, his skill in selecting and his felicity in expressing the salient truths of his science, conquered the confidence of his students, roused their interest and attention, and powerfully impressed their memories.

In his intercourse with both colleagues and pupils he was frank, bold and direct. Loyal to his friends and generous to the verge of profusion, indulgent to the frailties of youth and inexperience, but governed always by the highest sentiment of honor, he attracted the love of his pupils and the regard of his equals, and maintained from all the respect due to his robust intelligence, his manly nature and his warm heart. His friends and colleagues in the Faculty of the University of Virginia do therefore resolve,

1. That they mourn the death of their late associate both as a personal bereavement and a public loss, and desire hereby to put on record their sense of his unsurpassed powers as a teacher and his noble qualities of mind and heart.

2. That they extend to his afflicted family their profound sympathy in the dispensation of Providence which has taken from them brother, husband and father, and invoke for them those celestial consolations which alone are able to alleviate their grief.

3. That these resolutions be spread upon the minutes, and that the Chairman of the Faculty be requested to transmit a copy to the family and to cause them to be published in the Richmond and Charlottesville papers.

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## Book Reviews and Notices.

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*A Practical Treatise on Diseases of the Skin*, 3d edition, J. Nevins Hyde, A. M., M. D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago, etc.; Lea Brothers & Co., publishers, 1893.

The especial attention given to the diagnosis and pathology of skin diseases is the prominent feature of Dr. Hyde's work.

The subordination of the treatment to these two, and the important lines of differentiation made, establish the value of the book for the student. The careful revision of former editions, and the recognition of many things new in dermatology are evident. The section on the anatomy and the physiology



of the skin is most complete, and well selected plates illustrate the points defined in the text. We are glad to notice the excellent plate of the late Dr. H. D. Schmidt, of New Orleans, on page 19, in which the anatomy of the skin is well delineated, and especially that of the glands and the capillaries. The list of "definition and terms" is quite welcome, and will be particularly so to the student, to whom these terms often become confusing. In the chapter on "General Therapeutics," the author fitly comments upon the abuse of arsenic in the treatment of diseases of the skin and enters a timely protest.

Brief but appropriate suggestions are given on the usefulness of hydrotherapy.

The author follows, in the main, the classification adopted by the American Dermatological Association. An occasional rational exception is made. We are bound to acknowledge the advantage of the separation of the "coccogenous dermatoses." This class is intended to embrace the skin eruptions due to the several pus micro-organisms and includes such conditions as impetigo, furunculosis, etc.

Wisely the exanthemata are briefly treated. The work as a whole impresses itself as a text book and a useful one. The articles on eczema and acne are especially noteworthy, and the varieties of the latter are well separated. The author is unfortunate in condemning the term "seborrhœic eczema," without offering a suitable, or any substitute. The section on new growths is well treated and well illustrated. The author makes the "macular" division of leprosy, which we are inclined to believe, with others, only a stage of the two real types: the anæsthetic and the tubercular.

Issue is taken with the usual division of the syphiloderms into secondary, etc., varieties. As a substitute, the author divides these eruptions into "benignant" and "malignant" varieties with subdivisions.

Although not accepting the radical views of the writer, we are glad to see an effort made to correct the hopelessly confusing division now in use.

The book may be accepted as a fair interpretation of American dermatology, and offers to the student and practitioner alike an excellent work of reference.

ISADORE DYER.

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*Anatomy, Descriptive and Surgical.* By Henry Gray, F. R. S. The drawings by H. V. Carter, M. D., with additional drawings in later editions. A new American from the thirteenth English edition. Edited by T. Pickering Pick. Philadelphia: Lea Bros. & Co., 1893.

Another edition of this splendid work has just been issued by the Leas. It is now thirty-nine years since *Gray's Anatomy* first put forth a modest claim to the consideration of the medical world. Since that time there has not been a medical student in English-speaking countries who has not incurred a profound obligation to the author of the best descriptive text-book on anatomy. Anatomy is the foundation of medical and surgical knowledge. When a foundation is defective, the house is frail and dangerous. He who builds his medical knowledge on *Gray's Anatomy* need have no fear for the security of the foundation. Many good text-books on anatomy have been sent forth since Gray first appeared on the field; but the unquestioned excellence of the book has proven to be a source of perennial prosperity. Anatomy shared in the general advances made in medical science, and a book that was first class a few years ago certainly can not hold its rank now. *Gray's Anatomy* has never been allowed to be relegated to the ranks of archaic literature. The ability of its editors and the enterprise of its publishers have made the numerous editions reflect accurately the status of contemporaneous anatomical science. The last edition, just from the press, contains those additions which progress has made necessary since the publication of its predecessor. We have nothing to add to our praise of the previous edition, except to note that the present one resembles it in being a thoroughly modern text-book, done up in the best practical style known to typographers and engravers.

A. McS.

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*A Treatise on the Science and Practice of Midwifery:* By W. S. Playfair, M. D., D., F. R. C. P., etc. Sixth American, from the eighth English edition, with notes and additions by Robert P. Harris, A. M., M. D., with five plates and 217 illustrations. Philadelphia: Lea Brothers & Co. 1893.

Owing to recent important improvements in certain departments of obstetrics the author has wisely revised the seventh English edition, presenting to us to-day a fresh and most valuable book with almost entirely new chapters on extra-uterine pregnancy, the Cæsarean section, symphyseotomy and puerperal septicæmia. Cœliotomy and the prefix cœlio have been adopted instead of the old expressions laparotomy and laparo. Symphyseotomy is well handled, but the author having no personal experience with the operation can give but that of others. "I can give," says he, "no opinion on its merits beyond the obvious remark that anything that tends to minimize the resort to the horrible operation of craniotomy without materially increasing the risk to the mother, which the figures so far show that this operation promises to do, is well

worthy of the most serious study and consideration." Of Thomas' *cœlio-elytrotomy* he says: "It does not appear to have been performed since 1887, and as it is a complex and difficult procedure it is not likely again to be adopted; nor, with the lessened mortality of the *Cæsarean* section, is there any reason why it should be. I, however, retain the account of it as a matter of obstetric interest." That operation in the opinion of the reviewer is certainly dangerous in the hands of those not possessed of great surgical skill and dexterity. The editor mentions that there was a mortality of but 14 in the last 100 Porro's operation. The editor further informs us that the use of the soft rubber cord around the uterus in *Cæsarean* section has so often led to secondary hæmorrhage that it has been generally condemned, and that manual compression is much safer.

The chapter on ectopic pregnancy is very well written, and the subject entertainingly and instructively discussed.

At the outset of the chapter on puerperal eclampsia the author admits that "while the urinary origin of eclampsia has been pretty generally accepted, more recent observations have tended to throw doubt on its essential dependence on this cause; so that it can hardly be said that we are yet in a position to explain its true pathology with certainty."

The subject is then handled in the masterly manner peculiar to this author. At the end of the chapter is a very encouraging passage from the editor, which says that "eclampsia is sometimes purely reflex, and not at all dangerous, although it may be alarming. The convulsive movements may arise from nerve disturbance due to the foetal head distending the cervix in the last stage of dilatation in *primiparæ*. When the head begins to distend the perineum the convulsive seizure often closes. Such patients are safer without the forceps." The reviewer well remembers having seen at least three cases in which the convulsion began as the cervix was being forcibly distended by the foetal head, and which ceased without the use of anæsthetics as soon as the head reached the perineum, the children being delivered without artificial aid.

In the chapter on puerperal septicæmia, "a subject which has caused so much discussion and difference of opinion," and which the author presents in an elaborate and very instructive manner, appears the following wise and conservative passage: "It would be a useless task to detail at length the theories that have been advanced to explain the disease. Indeed, it may be safely held that the supposed necessity of providing a theory which would explain all the facts of the disease has done more to surround it with obscurity than even

the difficulties of the subject itself. If any advance is to be made, it can only be by adopting a humble attitude, by admitting that we are only on the threshold of the inquiry, and by a careful observation of the clinical facts, without drawing from them too positive deductions."

The more one reads this excellent edition of the work of so great a master as Dr. Playfair, the more one appreciates that it contains in a condensed form all the latest discoveries and offers the most useful teachings in obstetrics. As it has always been, this book is one of the most reliable friends and counsellors that can be placed in the hands of the student and practitioner of medicine.

P. MICHINARD.

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#### NEW EDITION OF THE NATIONAL DISPENSATORY.

Physicians and pharmacists will be interested to learn the fact that the new edition of *The National Dispensatory* is almost ready for publication. Upon its first appearance fifteen years ago a very large edition was exhausted in six months. The characteristics which secured this immediate recognition were its authoritative accuracy, its completeness, and the convenience with which desired information could be found owing to the exclusion of obsolete matter. These features have been carefully preserved in the successive editions, of which five have been demanded at brief intervals. The work contains the latest and ripest knowledge of that pharmaceutical savant, the late John M. Maisch, who had practically completed before his death the sections reserved for himself. He had confided the remainder of the pharmaceutical portion to Professor Charles Caspari, Jr., who occupies the Chair of Pharmacy at the Maryland College of Pharmacy in Baltimore. The therapeutical department has been brought thoroughly abreast of the time by Professor Alfred Stillé, M. D., who has included critical statements of the value of even the newest remedial agents. A most suggestive "Therapeutical Index" is provided, giving practical suggestions under the various diseases arranged in alphabetical order. This, together with the general index, contains the vast total of 25,000 references. *The National Dispensatory* covers by authorization the new United States Pharmacopœia. Though the new edition of the Dispensatory contains at least 100 pages more than its predecessor, it will probably be maintained at the same low price in view of the certainty of a large and growing demand. It contains many new tables, lists and descriptions of new processes and tests, and will be a work of indispensable value to all who have to do with any of the medical sciences.



## ANNOUNCEMENT.

E. B. Treat, publisher, New York, has in press for early publication the 1894 *International Medical Annual*, being the twelfth yearly issue of this eminently useful work. Since the first issue of this one volume reference work, each year has witnessed marked improvements; and the prospectus of the forthcoming volume gives promise that it will surpass any of its predecessors. It will be the conjoint authorship of forty-one distinguished specialists, selected from the most eminent physicians and surgeons of America, England and the Continent. It will contain complete reports of the progress of medical science in all parts of the world, together with a large number of original articles and reviews on subjects with which the authors' names are especially associated. In short, the design of the book is, while not neglecting the specialist, to bring the general practitioner into direct communication with those who are advancing the science of medicine, so he may be furnished with all that is worthy of preservation, as reliable aids in his daily work. Illustrations in black and colors will be consistently used wherever helpful in elucidating the text. Altogether it makes a most useful, if not absolutely indispensable, investment for the medical practitioner. While the book will be so much improved over previous issues, the price will remain the same as heretofore, \$2.75.

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## State News and Medical Items.

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At the regular meeting of the Shreveport Medical Society, the following officers were elected for the ensuing year: President, Dr. J. C. Eagan; Vice President, Dr. T. E. Schumpert; Recording Secretary, M. K. Vance, M. D.; Corresponding Secretary, Dr. Randall Hunt; Treasurer, Dr. J. J. Scott. Dr. N. K. Vance read a very elaborate paper on tubercular meningitis, which was highly complimented by the fraternity present. Dr. S. H. Hicks was appointed essayist for next meeting.

The regular monthly meeting of the Tri-Parish Medical Society convened at Gibsland on the 11th of December. All members of the medical profession were requested to be present and prepared to pay their dues. Following is the pro-

gramme: Dr. Poole—Slow Fever, Diagnosis and Best Treatment; Dr. Simmons—Humorous Side of Medicine; Dr. Ragan—Keeley Cure; Drs. Day & Willis—Septicemia, Prevention and Cure; Dr. Atkinson—Best Treatment for Typhoid Fever; Dr. Deseay—Endometritis, Diagnosis and Treatment.

Four doctors from Richland parish, two from West Carroll and four from Franklin—ten in all—met in the city hall at Delhi on the 26th ult., and organized a medical association and named it the “Bayou Macon Medical Association.”

Dr. R. F. Harrell, formerly of Gibsland, La., has moved to Ruston.

Dr. W. D. White, of Abbeville, La., one of the JOURNAL's oldest readers, was in the city recently.

Dr. L. T. Postell, of Plaquemine, La., had the misfortune to lose his residence by fire lately.

Dr. L. H. Moss, of Lake Charles, La., narrowly escaped being drowned, by the sinking of a ferryboat. He lost his horse and carriage.

Dr. F. N. Brian, of Boyce, La., has been confined to his home with intermittent fever for some time.

Dr. Roger de Montluzin, of Baton Rouge, has just been appointed consular agent of the French republic at that point.

Dr. J. R. Briggs, editor of the *Texas Health Journal*, left for New York on the 21st, where he will take a post-graduate course in medicine.

Dr. S. G. Reed, one of the oldest residents of Lyons Point, La., died recently.

Dr. W. K. Vance, of Shreveport, La., has located in Baton Rouge.

At the Emergency Hospital at the World's Fair, there were treated 18,500 cases, and there were twenty-three deaths and nine births at the institution. This seems to make a creditable showing for the hospital where so many people, from all sections of the world, were cared for.

The Medical Association at Cleburne, Texas, lost its president, Dr. J. L. Maggley, December 21, 1893. The doctor fell in front of a train and was instantly killed.

Dr. J. A. White, of Pineville, La., has a patient who claims to be 115 years old.

Dr. J. A. Leveque, of Natchitoches parish, died December 15, 1893, on Cane river, where he had practised medicine the past twenty-five years.

Dr. Alfred Duperier has returned to New Iberia after spending several months in Europe at the prominent hospitals.

The medical library at Washington, D. C., contains 50,000 volumes and 70,000 pamphlets.

Dr. J. A. Bernet, of Burtville, La., was thrown from his buggy while going to see a patient at night, and was fatally injured. He was a graduate of Tulane, class 1891.

Dr. E. Howard, of Durant, Miss., was married recently to Miss Lizzie Ramsey.

Cards from Mr. and Mrs. W. H. Bonner, Tyler, Texas, have been received, announcing the marriage of their daughter to Dr. Erwin Pope, of Tyler.

Dr. J. A. McMillan, one of the oldest citizens of Red Top, La., died recently.

Dr. W. C. Branch, of Bunkie, La., had the misfortune to dislocate his shoulder while trying to hand a paper to some one on a moving train.

Dr. E. S. Lewis and John T. Gibbons, Esq., were appointed recently to fill the vacancies on the Board of Administrators of the Charity Hospital.

The *Atlanta Medical and Surgical Journal* says: The Amick Consumption Cure Co. have sued the editor of the Cincinnati *Lancet-Clinic* for \$100,000.

Dr. H. C. Black, Waco, Texas, has gone to New York City to attend the Polyclinic.

Dr. J. N. Fuller, of Calhoun, La., was thrown from his horse December 23d and killed.

Dr. T. C. W. Ellis has removed from Franklinton, La., to Amite City.

Dr. J. J. Ayo, a graduate of Tulane, class '92, who located at Lake Charles, La., has removed to New Orleans and opened an office at 120 Jackson avenue.

Dr. J. Legare, who was at Brunswick during the epidemic of yellow fever the past year, has returned to his home at Donaldsonville.

Dr. Geo. H. Jones, of Jackson, La., was married recently to Miss Sarah E. Keller.

At a meeting of the Faculty of the Jefferson Medical College, it was unanimously resolved to institute a compulsory four years' course with the session of 1895-96. This step was taken in order that the large clinical service of the Jefferson College Hospital (350 cases a day) might be utilized to the fullest extent in carrying out the desire of the Faculty to provide advanced medical education of a practical character.

Dr. R. A. Truxillo, of Darrow, La., was married recently to Miss Aline Lalland.

Dr. Robert U. Borde, age 27 years, died December 27, 1893, in this city.

TO PREVENT COCAINE INTOXICATION.—Parker has discovered that the unpleasant or even poisonous symptoms which occasionally follow the local application of strong solutions of cocaine in the nasal and buccal cavities may be entirely prevented by combining the drug with resorcin. This combination is also of advantage in utilizing the antiseptic, astringent and hæmostatic properties of the latter drug.—*British Medical Journal*.

Pennsylvania is the first State to turn over the entire control of quarantine matters to the Federal Government.

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#### CONFERENCE TO REGULATE THE PRACTICE OF MEDICINE.

Wednesday, the 6th inst., a meeting of allopathic and homœopathic physicians was held in parlor L of the St. Charles Hotel, having for its object the discussion of the bill to regulate the practice of medicine in the State of Louisiana. The meeting was called by the allopathic members of the medical profession, and the homœopathists were invited to attend and lend their assistance to the passage of this measure, which will be introduced at the next meeting of the General Assembly.



The conference was composed of Dr. Newton, of Monroe, La., who acted as chairman; Dr. A. B. Miles, of the Tulane Medical College, both members of the State Medical Association, and of the following homœopathists: Dr. Charles J. Lopez, president of the Hahnemann Medical Association of Louisiana; Dr. C. A. Mayer, secretary; Dr. J. G. Belden, Dr. W. Belden, Dr. Jules A. Mathieu, Dr. S. M. Angell, Dr. D. A. Lines, Dr. Edmond A. Murphy, Dr. René A. Murphy and Dr. Robert A. Bayley. This is the first time in the history of medicine that members of both schools, the allopathic and homœopathic, have met on equal terms of courteous and fraternal intercourse, and that the disciples of Hahnemann have been officially recognized by their medical brethren.

Dr. Newton, the chairman, made an eloquent address, stating the object of the meeting. He said that he had accepted the chairmanship of the committee, which was composed of 100 allopathic physicians and members of the State Medical Association, with the understanding that he would be permitted to call upon the homœopathists and to obtain from them their support of the bill. He had tried to enlist the *Times-Democrat* and the *Picayune* under the standard of the medical profession and to persuade them to defend the bill to regulate the practice of medicine in this State, and for answer he had been told that the press would cheerfully lend its assistance, provided that the proposed measure met with the approval of the homœopathists. The object of the bill is self-protection and to elevate the standard of the medical profession as well as to prevent ignorant and incompetent individuals from palming themselves off as graduated physicians. The result could be obtained if a State Board of Medical Examiners was established and a law passed by the Legislature requiring a certificate of this board, stating that the candidate is competent, in order to entitle him to the right of practising medicine.

The remarks of the chairman were answered by Dr. Charles J. Lopez, president of the Hahnemann Medical Association. He stated that when the bill was introduced before the last Legislature, the body which he represented had opposed it on principle, because the American Institute of Homœopathy, of which the State association formed a branch, held as one of its beliefs that the best plan to elevate the standard of the medical profession was, not by the establishment and organization of State Boards of Examiners that might be influenced by factional and political motives, but by lengthening the course of studies in the medical colleges and by exacting from every student applying for matriculation a diploma showing that the applicant had received a classical

education, or due proof that he had made a special study of botany, chemistry and philosophy. As a representative of the homœopathsists he promised that their support would be given to the bill to regulate the practice of medicine in Louisiana, provided that the amendments which they would offer would meet with the approval of the committee.

The meeting then adjourned. The homœopathists will assemble and agree to the proposed amendment, and it is believed that two boards will be established by the bill—one composed of allopathic and the other of homœopathic physicians.

Before final action is taken the proposed bill will be submitted to the State Medical Association.—*Times-Democrat*, December 10, 1893.

#### U. S. ARMY SURGEONS.

CIRCULAR OF INFORMATION FOR CANDIDATES SEEKING APPOINTMENT IN THE MEDICAL CORPS OF THE UNITED STATES ARMY.

The Medical Corps of the Army consists of a Surgeon General with the rank of brigadier general, six Assistant Surgeons General with the rank of colonel, ten Deputy Surgeons General with the rank of lieutenant colonel, fifty Surgeons with the rank of major, and one hundred and twenty-five Assistant Surgeons with the rank of first lieutenant, mounted, for the first five years, and the rank of captain, mounted, thereafter until promoted to major. Promotion through the intermediate grades of rank from that of captain to that of colonel is by seniority, but there is an examination for the rank of captain and another for that of major, to ascertain the fitness of the officer for promotion. Advancement to lieutenant colonel and colonel takes place without further examination. The Surgeon General is selected by the President from among the members of the corps. All vacancies are filled by appointment to the junior grade.

PAY AND EMOLUMENTS.—To each rank is attached a fixe annual salary, which is received in monthly payments, and this is increased by 10 per cent. for each period of five years' service until a maximum of 40 per cent. is reached. An assistant surgeon with the rank of first lieutenant, mounted, receives \$1600 per annum, or \$133.33 monthly. At the end of five years he is promoted to captain and receives \$2000 a year, which, with the increase of 10 per cent. for five years' service, is \$2200, or \$183.33 per month. After ten years' service he receives \$2400, after fifteen years

\$2600, and if he remains a captain after twenty years, \$2800 per year. The pay attached to the rank of major is \$2500 a year, which, with 10 per cent. added for each five years' service, becomes \$3250 after fifteen years and \$3500 after twenty years. The monthly pay of lieutenant colonel, colonel, and brigadier general is \$333.33, \$375 and \$458.33 respectively. Officers in addition to their pay proper are furnished with a liberal allowance of quarters according to rank, either in kind, or where no suitable government building is available, by commutation. When traveling on duty an officer receives four cents per mile and reimbursement of money actually expended for railroad or other fares. On change of station he is entitled to transportation for professional books and papers and a reasonable amount of baggage at government expense. Mounted officers, including all officers of the Medical Corps, are provided with forage, stabling and transportation for horses owned and actually kept by them, not exceeding two for all ranks below a brigadier. Groceries and other articles may be purchased from the Commissary and fuel from the Quartermaster's department at about wholesale cost price. Books and instruments are supplied in abundance for the use of medical officers in the performance of their duties.

ARMY MEDICAL SCHOOL.—By a recent order the Secretary of War has authorized the establishment of an army medical school in the city of Washington for the purpose of instructing approved candidates for admission to the medical corps of the army in their duties as medical officers.

The course of instruction will be for four months, and will be given annually at the Army Medical Museum, in Washington City, commencing on the 1st day of November.

Five professors have been selected from among the senior medical officers of the army, stationed in or near the city of Washington, and as many associate professors as may be required to give practical laboratory instruction in the methods of sanitary analyses, microscopical technique, clinical microscopy, bacteriology, urine analysis, etc.

The faculty of the Army Medical School will consist of—

1. A *President of the Faculty*, who shall be responsible for the discipline of the school, and who will deliver a course of lectures upon the duties of medical officers in war and peace (including property responsibility, examination of recruits, certificates of disability, reports, rights and privileges, customs of service, etc.).

2. A *Professor of Military Surgery* (including the care and transportation of wounded).



3. *A Professor of Military Hygiene* (including practical instruction in the examination of air, water, food and clothing from a sanitary point of view).

4. *A Professor of Military Medicine.*

5. *A Professor of Clinical and Sanitary Microscopy* (including bacteriology and urinology).

DUTIES AND PRIVILEGES.—A medical officer after completing the course of instruction at the Army Medical School will be assigned for some months as junior at a large military post before he is thrown upon his own responsibility. His stations after that are likely to alternate between the frontier and more desirable points, a tour of duty being usually four years at one place.

Leave of absence on full pay is allowed at the rate of one month per year, and this when not taken may accumulate to a maximum of four months, which at the end of four years is then available as one continuous leave. Beyond this an officer may still be absent with permission on half pay. Absent from duty on account of sickness involves no loss of pay.

Medical officers are entitled to the privilege of retirement at any time for disability incurred in the line of duty, or after forty years' service. On attaining the age of sixty-four they are placed upon the retired list by virtue of law. Retired officers receive three-fourths the amount of their pay proper at the time of retirement.

It is the intention of the Surgeon General to recommend the assignment for duty, as attending surgeons in the principal medical centres of the United States, of medical officers who have not yet passed their examinations for promotion to a majority, and, so far as may be practicable, in the order of their seniority. These details will be made for one year only, in order that as many medical officers as possible may be enabled to avail themselves of the opportunities thus offered to become familiar with the practice of the leading physicians and surgeons in this country, and of attending medical lectures, meetings of medical societies, etc. At the end of this tour of duty medical officers will be required to make a detailed report to the Surgeon General, showing how much of their time has been occupied by their official duties and to what extent they have availed themselves of the advantages offered for professional advancement.

EXAMINATION AND APPOINTMENT.—Appointments to the Medical Corps of the Army are made by the President after the applicant has passed a successful examination before the Army Medical Examining Board and has been recommended by the Surgeon General. Due notice of the meeting of the board is



usually published in the medical journals. The date of meeting is about April and October. Permission to appear before the board is obtained by letter to the secretary of war, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and State of which he is a permanent resident, and enclosing certificates based on personal acquaintance from at least two reputable persons as to his citizenship, character and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-eight years old, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the board. The scope of the examination will include the morals, habits, physical and mental qualifications of the candidate, and his general aptitude for service; and the board will report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

The physical examination comes first in order, and must be thorough. Each candidate will in addition be required to certify "that he labors under no mental or physical infirmity or disability of any kind which can in any way interfere with the most efficient discharge of any duty which may be required." Errors of refraction, when not excessive, and not accompanied by ocular disease, and when correctible by appropriate glasses, are not causes for rejection.

The mental examinations are conducted by both written and oral questions, upon—

I. Elementary branches of common school education, including arithmetic, the history and geography of the United States, physics and upon general literature and ancient and modern history. Candidates claiming especial knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry or branches of natural science, will be examined in those subjects as accomplishments and will receive due credit therefor according to their proficiency.

II. Professional branches, including anatomy, physiology, chemistry, physics, hygiene, pathology and bacteriology, therapeutics and materia medica, surgery, practice of medicine, obstetrics and the diseases of women and children.

Examinations at the bedside will also be conducted in clinical medicine and surgery, and operations and demonstrations upon the cadaver.

Hospital training and practical experience in the practice of medicine, surgery and obstetrics are of great importance to candidates seeking admission to the Medical Corps of the Army, and they will be fully appreciated and duly credited to those who have had such advantages.

The board has discretion to deviate from this general plan of examination in such manner as it deems best when necessary for the interests of the service.

To save unnecessary expense to candidates, those who desire it may have a preliminary physical examination and a mental examination in the "elementary branches of a common school education," by a medical officer of the Army stationed most conveniently for this purpose, who will act under instructions from the Medical Examining Board.

The merits of the candidates in each of the several branches, and also their relative merit as evinced by the results obtained from the entire examination, will be reported by the board, and in accordance with this report approved candidates will be appointed to existing vacancies or to such as may occur within two years thereafter. An applicant failing in one examination may be allowed a second after one year, but not a third.

No concession will be made for the expenses of persons undergoing examination, but those who receive appointments will be entitled to travel allowances in obeying the first order assigning them to duty.

There will probably be six vacancies in the corps to be filled.

To illustrate the general character of written questions submitted to candidates under examination, a few examples from the records of an Army Medical Examining Board recently convened in the city of New York are hereto appended.

GEO. M. STERNBERG,  
*Surgeon General.*

Approved:

DANIEL S. LAMONT,  
*Secretary of War.*

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#### ARMY MEDICAL BOARD.

An Army Medical Board will be in session at Washington City, D. C., during April, 1894, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the board will make application to the Secretary of War before March 15, 1894, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service

in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character and habits. The candidate must be between 22 and 28 years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board.

Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School, beginning in November, 1894.

Further information regarding the examination may be obtained by addressing the Surgeon General, U. S. Army, Washington, D. C.

GEO. M. STERNBERG,  
*Surgeon General, U. S. Army.*

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Doctor Longbill—"Is the boy costive?" Father of Sick Boy—"Costive? Vell, I should say! Dat poy has cost me over ein hundred dollars already!"

This reminds us of the story of the commercial traveler, who, upon returning home, told one of his friends that he had found his wife in bed with sciatica. The friend answered, "Of course, you killed the d—d Italian."

SHE DIDN'T KNOW THE LADY.—Mrs. Clancy: "Yis, Mrs. Muggins, Pat and Oi part to mate no more. Oi wint to the hospital to ax afther him. 'Oi want to see me husband,' sez Oi—"the man that got blowed up.' 'Yez can't,' sez the docther—he's unther the infloence of Ann Esthetics.' 'Oi don't know the lady, sez Oi' mighty dignified loike; 'but if me lawful wedded husband can act loike that when he's at death's door, Oi'll have a divorce from him!' "—*Sanitarian.*

## MORTUARY REPORT OF NEW ORLEANS.

FOR NOVEMBER, 1893.

CAUSE.	White .....	Colored...	Male.....	Female....	Adults ....	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	5	7	9	3	10	2	12
“ Intermittent .....							
“ Remittent .....	1	1	2		1	1	2
“ Congestive.....	2	1		3	2	1	3
“ Typho .....	1	1	2		2		2
“ Typhoid or Enteric.....	3	1	3	1	3	1	4
“ Puerperal .....		1		1	1		1
Leprosy.....							
Scarlatina .....							
Measles .....							
Diphtheria .....	7	1	5	3		8	8
Whooping Cough .....							
Meningitis .....	10		2	8	3	7	10
Pneumonia .....	12	14	15	11	20	6	26
Bronchitis .....	8	5	7	6	9	4	13
Consumption.....	43	26	42	27	67	2	69
Cancer .....	17	2	10	9	19		19
Congestion of Brain.....	4		2	2	2	2	4
Bright's Disease (Nephritis) ....	20	10	17	13	29	1	30
Diarrhœa (Enteritis) .....	48	16	35	29	25	39	64
Cholera Infantum .....	18	4	11	11		22	22
Dysentery.....	6	6	10	2	10	2	12
Debility, General .....	1	2	1	2	3		3
“ Senile .....	26	15	13	28	41		41
“ Infantile .....	6	6	8	4		12	12
All other causes .....	175	101	156	120	170	106	276
TOTAL .....	413	220	350	283	417	216	633

Still-born Children—White, 23; colored, 21; total, 44.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 26.86; colored, 37.98; total, 29.90.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector.



# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### THE PREVENTION OF TUBERCULOSIS.\*

By W. SCHEPPEGRELL, A. M., M. D., NEW ORLEANS, LA.

In watching the activity which is being shown in the therapeutics of tuberculosis, which is manifested in the hundreds of medicinal, dietetic, climatic, surgical and other agents continually brought to our attention in our periodicals and text books, and whose very multiplicity evidences our curative impotency, we are apt to lose sight of a most important measure, which presents no special difficulties, and which, after all, in spite of tuberculin and its many modifications, will, perhaps, solve the question of controlling this dreadful disease—I refer to the prophylaxis of tuberculosis.

Since Koch, in 1882, first discovered the bacillus which is now known by his name, and announced it to be the specific cause of tuberculosis, hundreds of workers in the fields of pathology and bacteriology have continued to publish corroborative evidence of the causative influence of the bacillus. That the inoculations of animals with the pure culture of the bacilli produces tuberculosis in these animals, and that the bacilli are always present in tuberculous lesions, furnish indubitable evidence of the etiological importance of these organisms.

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\*Read before Orleans Parish Medical Society, January 13, 1894.

It is true that occasionally pathologists have examined tubercles in which Koch's bacilli could not be found, but which presented all the clinical appearances and even developed apparently true tuberculosis when injected into animals; but in the face of the overwhelming evidence from all parts of the world of the specific character of the bacillus, these cases must be accepted either as errors of diagnosis or as being cases in which the bacilli were not really absent, but which presented some unexplained difficulty in their detection.

Disregarding the etiological influence of this micro-organism, the theory that the products of tuberculosis are infectious, and that they may develop the same morbid condition when they gain entrance into the system of certain persons, whether it be through the respiratory or digestive passages, or other means, is becoming every day more accepted by the profession, and the few who do not accept it are very much in the minority. Most of the medical schools now teach the doctrine of the infectiousness of tuberculosis.

The fact that the tuberculous process does not attack all persons alike is not a characteristic of tuberculosis alone. Diphtheria, scarlet fever, small-pox and yellow fever all manifest an unexplained preference for certain ages or persons, evidence of which is shown in every epidemic, and which, for want of a better understanding of its pathology, we call "susceptibility." Susceptibility alone, however, can not give rise to an infectious disease any more than we can expect a corn stalk unless the corn is planted, and the removal or diminution of the undestroyed products of tuberculous lesions is the important factor in the prophylaxis of this disease.

Some years ago, while practising in Charleston, S. C., I had special facilities for seeing tuberculosis among the negroes of that city. According to the accounts of travelers and explorers, negroes in their native country are but rarely affected with this disease; but among the negroes in Charleston tuberculosis was so common that it was unusual to find a family in which some of its members were not affected with the disease. In fact, so epidemic did I find the disease among this class that it is my firm conviction that unless some radical measures

are adopted it will eventually solve the question of negro labor, in that State at least.

It will be argued that the prevalence of the disease was due to bad hygienic conditions, and while this certainly had its influence, it could not explain many of the features which I observed. In one house, for example, three negro patients, representing two successive families, were affected with tuberculosis pulmonalis within eighteen months, and who had, previous to their residence in this house, presented no symptoms of the disease. Adjoining this house was another which had been recently built, but which was equally filthy and unhygienic, but in which during the same length of time there had not developed a single case of tuberculosis. This is not a solitary, but one of many observations, and the only rational explanation is that the concentration of the infectious tuberculous matter broke through the barriers which the negro's natural vitality offered to this disease.

I have had but little opportunity to observe the pulmonary form of tuberculosis among the colored people of this city, but in examining statistics kindly furnished me by Dr. Salomon, secretary of the State Board of Health, I find that tuberculosis is also very prevalent among the colored population of this city. From the tables furnished me, I note that during nine years, from 1884 to 1892 inclusive, there were registered 38,552 deaths from all causes of whites, of which number 4337 died of some form of tuberculosis; that is, about 11 per cent.; while during the same period of time, 27,606 deaths from all causes of colored persons were reported, of which 3640 died of tuberculosis; a proportion of about 17 per cent. These figures show that 14 per cent. of all deaths in this city were due to tuberculosis, that is one in every seven deaths, and that the proportion of mortality from this disease is 50 *per cent.* higher in the colored than in the whites of this city.

If such a high death rate in a race among which a few generations back tuberculosis was unknown were caused by any other disease than tuberculosis, with its insidious period of incubation and its slow progress, the infectiousness of the disease would never have been questioned.

I would remark here that while tubercular pulmonitis

is relatively more prevalent among the colored than among the white, tubercular laryngitis appears to be less common among the colored. During 1892, only 12 of 60 cases of tubercular laryngitis seen at the Eye, Ear, Nose and Throat Hospital were colored.

That the prevention of tuberculosis is not a mere myth is demonstrated by results obtained in other countries, where some steps have been taken toward the prevention of tuberculosis. In England, since special hospitals have been introduced for the treatment of tuberculous patients, the mortality from this cause has, during the past forty years, been reduced over 40 per cent.; and Italy, by teaching the doctrine of the infectiousness of tuberculosis and adopting some crude methods toward its prevention, has made this from a common to a somewhat rare disease. In Philadelphia, where the attention of the people has been called to the dangers of infection from tuberculosis, a work more especially due to the labors of the Pennsylvania Society for the Prevention of Tuberculosis, the mortality rate has, according to Flick, been reduced about 20 per cent. during the last eight years.

The important feature in the prophylaxis of tuberculosis is the recognition of the infectiousness of this disease by the profession, boards of health and public health officers, and the teaching of the doctrine of its infectiousness to the people. If this were done, if tuberculosis were placed in the same category of diseases as diphtheria, scarlet fever and other well known infectious diseases, tuberculosis would soon cease to be the dreaded scourge that it is at present.

That this should be done is, of course, expecting too much at the present time, but that much good could be effected by organized efforts, and this too without inflicting any special hardship on the unfortunate victims of the disease, is entirely practicable.

An important part of this work is the teaching of the public generally, and the families of tuberculous patients especially, that the sputum, pus or other products of a tuberculous lesion are infectious, but that the danger of infection may be prevented by easy methods. Every physician should consider it his duty to teach this doctrine, and to explain how measures



for the disinfection of sputum and other tuberculous matter may be carried out.

The Pennsylvania Society for the Prevention of Tuberculosis has done much service in this good work by gratuitously distributing tracts entitled "How Persons Suffering from Tuberculosis can Avoid Giving the Disease to Others," and "How to Avoid Contracting Tuberculosis." These articles, a number of which have been placed in my hands by Mr. E. Leslie Gilliams, the secretary of the society, I have for some time past given to the families of my tuberculous patients. They so clearly define what should be done by persons to prevent the infection of themselves or of others that I have brought a number of copies here for distribution.

Were these directions carried out I am convinced that it would, in a few years, show its beneficial influence on the mortality from this disease; but the well-known indifference which the majority, especially of the poor, show to such matters makes it incumbent upon the medical profession to use some organized method to aid the work for the prevention of tuberculosis.

One of the most beneficial measures which has been suggested, and one which has been found most effective in other diseases, is the reporting of all cases of tuberculosis which have attained the period at which they become infectious—that is, the "breaking down" period. The registration of these cases would enable the Board of Health to carry out some of the measures adopted in other infectious diseases, such as seeing that the products of the disease are properly destroyed, that the clothing and linen is disinfected before it passes into other hands, and that the house or room occupied by the patient is thoroughly disinfected before it is occupied by a new tenant.

The importance of this disinfection is shown by many statements, showing that a succession of tenants in the same house have become infected with the disease; and also by the fact that the dust from the walls of a number of such houses has been injected into animals, developing, in a few days, the characteristic lesions of tuberculosis.

It will be argued that the carrying out of such regulations would inflict many hardships upon the unfortunate patient, but

this is really more apparent than real. Tuberculosis is too common a malady that persons should be frightened by it more than formerly simply on account of a visit from a health officer. Besides, this argument is no stronger here than it would be in diphtheria, variola, or other infectious diseases.

The acceptance of the doctrine of the infectiousness of tuberculosis and the registration of cases would, no doubt, have an adverse influence on tuberculous patients in certain employments, such as nurses, butchers, cooks, waiters, barbers, etc., by causing others to refuse to hire or deal with such persons. This would, on the other hand, react very much to the benefit of the community by removing a constant danger of infection, and the affected persons would probably be able to find some other employment, in which they could not jeopardize the health of others.

The disinfection of public cuspidors and the placing of receptacles with disinfecting solutions in cars and other conveyances could be enforced without difficulty, if the public once accepted the infection doctrine of tuberculosis.

In regard to hospitals, as a natural sequence of the infectiousness of the disease, special wards should be provided for tuberculous patients, so that infection of patients suffering from other diseases would be rendered impossible. The efficacy of this method has been shown in England, where such hospitals are not only not shunned by tuberculous patients, but where the capacity of these institutions is frequently inadequate to the number of patients applying.

In families of some means, the rules as to the disinfection of tuberculous matter may be carried out; but in the families of the very poor, where a number of persons are crowded into one room, and where frequently the cooking for the family and the washing or sewing for some other family are carried on in the same room, the establishment of such hospitals would not only be a boon to such patients and their families, but also remove a constant source of menace to others.

In this article, I have endeavored to review some of the practical methods suggested for the prevention of tuberculosis. In addition to these, the enactment of laws in regard to the sale of meat or milk of diseased animals, the interdiction

of immigration of persons suffering from tuberculosis, the disinfection of penal and reformatory institutes, have already received considerable attention here and in other countries, and are regarded so favorably that their enforcement will probably be only a question of time.

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#### NOTES ON THE TREATMENT OF DIPHTHERIA.\*

BY DR. ARTHUR WEBER, NEW ORLEANS, LA.

This brief report of the following eighteen cases of diphtheria may be of some interest on account of the treatment adopted in each being almost identical. The majority of them occurred in poor and ignorant families whose sanitary surroundings were abominable. A few of the parents were hardly endowed with sufficient intelligence to properly carry out the instructions of the attending physician. These cases were the longest under treatment.

Having always held a belief that diphtheria was a local disease, with constitutional symptoms produced by the absorption of toxic material, it has been my aim to combat it at the point of infection, and by destroying the nest of the bacilli to remove the source of the poison.

This theory has, to my mind, been proven in the success attending these cases. For as soon as there was an improvement in the local development of the disease there was a corresponding improvement of the constitutional symptoms. By this I do not mean to say that we should depend entirely on local treatment, for no cases ever come under our care where the effect of the absorption of the poisonous toxalbumin is not noticeable, and it is necessary to adopt some general plan of treatment to destroy the effect of this effete material in the blood.

The following is the treatment adhered to in all cases coming under my attention. The throat is sprayed every twenty minutes during the day and every hour at night with pure peroxide of hydrogen (Marchand's) until the membrane has disappeared. After the removal of the membrane has taken place the spray is continued every two or three hours for sev-

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\* Read before the Orleans Parish Medical Society, January 13, 1894.

eral days, when the patient is discharged. Whenever the pure peroxide causes too great irritation of the throat it should be gradually diluted with water and slightly alkalinized. One to three is about the weakest solution I have found useful.

At each sitting it is necessary that the parts involved should be well attended to; never introduce the nozzle only two or three times, but continue it for a minute or two, permitting the child to breathe after each application. Under such treatment you will be gratified to find the membrane dissolve, and often come off in pieces.

For systemic treatment at the commencement one-twentieth grain doses of calomel, combined with a grain of bicarbonate of soda, is given until there is an increase in the salivary secretion and production of four or five characteristic calomel stools, which usually takes place in twenty-four to forty-eight hours. The following prescription, a teaspoonful every two or three hours, is given after the action of the calomel:

R	Tinct. ferri chloride.....	℥ iss.
	Glycerine.....	℥ iv.
	Aqua .....	℥ ij.

If at any time during the attack there is any indication of heart failure, very small doses of strychnia and digitalis are given.

For food, brandy, milk, milk toddies, egg-nog, white of egg beaten up in water, the juice of meat broiled very rare, cocoa and Ducro's elixir are ordered at regular intervals.

The result of the above treatment can be seen in the following eighteen cases:

1. Ada W., 3 years; membrane disappeared in five days; under treatment twelve days; recovered.

2. Edna D., 2 years; recovered in twenty days; membrane disappeared on fifth and reappeared on the eighth day. Slight paralysis.

3. Ralph E. D., 2 years; recovered; membrane lasted seven days.

4 and 5. Mrs. R. E. D. and baby, recovered; membrane three days.

6. Annie E. W., 6 years; recovered nineteen days; membrane in throat and nose; a very severe case; followed by paralysis of palate.



7. Mary W., 9 years; recovered in twenty days; membrane twelve days; paralysis of palate.

8. Tillie M., 10 years; died on the ninth day; there was sloughing of the palate. The child was given a glass of cold beer and died thirty minutes after.

9. Alfred M., 3 years; recovered twenty-five days.

10. Henry M., 1 year; recovered twenty-two days.

11. Bertha W., 8 years; recovered twelve days; paralysis of palate.

12. Baby W., 1 year; recovered six days.

13. William W., 3 1/2 years; recovered twelve days; membrane seven days.

14. Thomas W., 5 years; recovered fourteen days; membrane six days.

15. Lizzie S., 7 years; recovered ten days; membrane four days.

16. Louis M., 6 years; recovered thirty-two days; thrice the membrane disappeared; paralysis of palate.

17. Daniel R., 5 years; recovered seventeen days.

18. Charles H., 3 years; recovered eight days.

In none of the patients, with the exception of case 8th, did the temperature rise above 103 deg., nor last longer than five days. In case 8th the temperature rose to 106 deg. There was gangrene of the throat at the first visit; sloughing of the uvula and parts of the palate occurred on the fourth day.

Cases 7th, 8th, 9th, 10th, 11th and 13th were covered with a diffuse erythema, which I at once thought was measles.

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#### REPORT OF SEVEN CASES OF LAPAROTOMY.

By BAILEY P. KEY, M. D., CHATTANOOGA, TENN.

*Case I*—LAPAROTOMY FOR AN ACUTE PERITONITIS.—Mrs. H., aged 38, was seen by me for the first time on January 20, 1889. About two weeks ago she was examined by a physician, who introduced a sound into the uterus, and from that time on she has been very ill. Present condition: Has sick stomach, vomiting everything she takes into the stomach; breath is very offensive, abdomen slightly tympanitic and very tender, abdominal muscles rigid, bowels constipated, tempera-

temperature 103, respiration 24, pulse 120; diagnosis: *acute peritonitis*.

I decided at once to open the abdomen. The surroundings of the patient for an operation of so grave a character were very bad. She lived in a little one room board house; any amount of cobwebs and dirt overhead. With all these difficulties staring me in the face I felt a little disinclined to operate, but I decided to do the operation if the patient was willing to take the chances. After fully explaining all the details of the operation to the patient, and she consenting, I immediately placed her on the operating table, and, after using all antiseptic precaution that was possible to be carried out in such a dirty place, I laid open the abdomen a distance of about  $2\frac{1}{2}$  inches, cleansed the abdominal cavity with hot water, and closed up the abdominal incision with about six catgut sutures.

Twenty-four hours after the operation the temperature of the body fell to 101 deg., and in forty-eight hours the temperature fell to 99 deg. From this time on she had an uninterrupted recovery. On the eighth day I removed the dressings and found perfect union of the parts. Operation verified diagnosis. Recovery.

*Case II.*—OVARIOTOMY.—*Fibro-Myoma.*—Miss I., aged 28, applied to me about two years ago for treatment. She suffers very much with pain in the left side, constant backache, with “burning pains” (as she expresses it) in the vagina; rest is often disturbed by pains in the region of the ovaries. By digital examination the left ovary is found prolapsed and lying back in the cul-de-sac; very tender when pressed upon through the walls of the vagina. Uterus measures two and one-half inches in length. Has leucorrhœa; she is unable to stand or walk at times; constipation of the bowels; exceedingly nervous; menstruation is somewhat irregular as to time, always a day or two too soon and lasting now about six days, but the quantity is rather less than formerly; suffers with pain in the left ovarian region during the menstrual flow. By the use of hot water douche, glycerine tampons and tincture of iodine to the walls of the vagina, she has improved somewhat in health. The pain in the left side has not been benefited very much by the local treatment, and is now so intense that she can not rest without the

aid of an anodyne. Hot water, glycerine tampons, tincture of iodine and all other available remedies have failed to give any relief, and as a last resort I have advised the removal of the uterine appendages as the only hope of relief. To this she readily consented.

On February 11, 1889, assisted by Dr. J. B. Cowan, I operated, removing only the left ovary with its mesovarium and the Fallopian tube in its outer three-fourths. Recovery.

The ovary was sent to Dr. Jas. E. Reeves, of Chattanooga, for examination. He reported as follows:

“The ovary sent for microscopical examination is a good specimen of that very rare form of disease of this organ—a fibromyoma, containing small loculi or cysts. Several of these little cyst cavities contained effused blood; and evidently the pathological conditions were all present favoring rapid growth. Springing from the meshes of the vascular tissue connected with the body of the ovary was a small cyst the size of a pea, with a thread-like pedicle an inch in length.

*Case III.*—FIBRO-MYOMA.—Mrs. J., aged 36, menstruated first at 14, married at 16, has three children; has not been well since the birth of her youngest child; menstruation very painful; uterus is natural, except extreme sensitiveness of the mucous membrane of the body. Cervix permits easily the passage of the sound. By conjoined manipulation I can detect a movable ovoid body behind the uterus, very painful when touched.

In this case I advised the removal of the appendages, and the patient at once passed from under my care and consulted several physicians of eminence at Nashville, Tenn., all of whom told her without hesitancy that if she let me operate on her she would die. After remaining about six months under the treatment of these distinguished gentlemen, she returned to Cowan, Tenn., and I again called to see her. I again advised the operation, and this time she consented.

On April 1, 1889, she came to Chattanooga and placed herself under my care. On April 23 I removed both ovaries and Fallopian tubes. Recovery.

*Case IV.*—Mrs. S., aged 18, married at 16, first menstruated at 14. About one year before marriage she had a hæmorrhage, accompanied by a great deal of pain. The flow since

has been very profuse, lasting about eight days. During the intervals she is never free from pain and is very nervous. I was first called to see her about four weeks ago for a pain in the left ovarian region. As stated above, she is never free from pain in the region of the left ovary. I advised the removal of the uterine appendages, and to this she readily consented, stating at the same time that she had been under the doctor's care long enough and was willing to undergo anything to get relief.

I could distinctly feel, upon conjoined manipulation, an ovoid body of small size behind and to the right of the uterus. As this was slightly movable and somewhat tender I supposed it to be a prolapsed ovary. In this I was mistaken.

The appendages were normal, or nearly so. I made the incision in the ordinary median position between the umbilicus and pubes, one inch and a half in length. An incision this size will easily admit two fingers. I laid bare the fibres of the linea alba and cut it through the whole length of the wound. Placed pressure forceps on all bleeding points. The parietes in this case, of course, were not thinned and distended by a large tumor; the linea alba was very narrow, and it could not be divided until I exposed both recti. I caught up the sub-peritoneal fat on two catch forceps, and carefully divided it between them; finished the division by pulling the tissues out of the wound. The peritoneum was easily recognized; while everted a small opening was made in it; I inserted my finger into this opening and completed the division upon it with scissors. There is no danger of wounding the bowels by this method. The omentum was dragged upward. The fingers, one on each side of the broad ligament, grasped it between them, were now passed downward till the ovary was felt; it was now lifted out of the wound. Still held in this position by the left hand, the Fallopian tube was pulled out as far as it would come and the pedicle spread out for ligature. I removed the ovary with its mesovarium and the Fallopian tube in its outer three-fourths. I placed the ligature double by transfixing with a blunt needle, and cut the parts away with Paquelin's thermo-cautery. The pedicle was dropped into the cavity. The same proceeding was then carried out with the appendages on the opposite side.



I now placed over the bowels under the incision a thin, flat sponge, and introduced the sutures, four or five in number. Catgut was used for suturing the wound.

Operation, August 8, 1889—recovery.

*Case V.*—Mrs. H., aged 35, married about ten years, mother of three children. During the last three years she has suffered intensely from dysmenorrhœa; general health greatly impaired, and the best part of her time is spent in bed; has constant pains in the right and left ovarian regions. Operation, October 2, 1889. At the time of the operation the temperature of the body was  $102\frac{1}{2}$  deg., respiration 30, pulse 120. I stated to her family that there was no chance to save her life only by doing a laparotomy. She readily consented to undergo the operation. For the first twenty-four hours after the operation she appeared to rally and continued to improve until the fourth day had passed, when the heart commenced beating very rapidly, and she at once became very restless, and those of you who have seen the approach of dissolution after an ovariectomy can realize how dreadful to behold is the look upon the patient's face. Ovaries enlarged and contained pus. Died on fifth day.

*Case VI.*—Miss A., aged 20, suffered pain in region of ovaries for two years. Has symptoms of peritonitis; uterus bound down by adhesions and retroverted. On opening the belly I found adhesion of the cæcum to the right ovary and border of the broad ligament on the right side. The tube at the fimbriated extremity was much distended and adherent to this mass, but the ovary was not enlarged; indeed, it was smaller than normal and partly degenerated. The left tube was distended, containing considerable fluid. In fact, the appendages were inflamed, adherent and fixed. The operation was difficult from beginning to end. The appendages were suppurating and matted together. In their fixed condition they could not be drawn to the surface, and the difficulty met with at this stage of the operation was twofold. They were intimately adhered to the walls and out of sight, however much the walls of the abdomen were depressed. I enlarged the incision, pulled the bowls out of the pelvis and kept them in the abdomen by large flat sponges packed under them; the parietes

were pulled apart and by the aid of strong light the parts exposed to view. I could now map out the diseased ovaries and Fallopian tubes and separate them from the surrounding healthy tissues by gradually unfolding them upward.

Considerable amount of pus escaped into the abdomen. The cavity was most thoroughly washed out with hot water. Every drop of blood was sponged out before the wound was closed. No drainage tube was used in this case. The surroundings of this patient were very bad. She lived in a little one room board house; any amount of dirt overhead. I felt sure she would die in a few days, but she made an uninterrupted recovery.

*Case VII.*—Mrs. D., mother of five children. Dates her illness from birth of first child, three years ago. At the time of examination complained of intense pains on both sides of the lower part of the abdomen. During past six months has become an invalid from effects of reflex pain. A singular condition of the parietal peritoneum was found in this case. From the level of the umbilicus to an inch and a half above the pubes, and for a breadth of three inches, involving the median line of the abdomen, the peritoneum was thickened until it was quite as thick as the ordinary skin of the body. It was so vascular that it was difficult to carry my needles through for closing the abdominal wound without penetrating veins half as large as a rye straw. It was likewise firmly adherent to the abdominal wall. Operation, January 16, 1890. Ovaries cystic. Recovery.

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## Proceedings of Societies.

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### ORLEANS PARISH MEDICAL ASSOCIATION.

January 13, 1894.

Meeting called to order at 8:05 by the president, Dr. A. W. de Roaldes. In the absence of the secretary, Dr. A. McShane, no minutes were read.

Under the head of communications, Dr. Chassaignac announced that he had a large number of "*Archives Générales de Médecine*," one of the leading French journals, which he desired to turn over to the library of the society.

The president stated they would be received with pleasure, and added that he might be able to complete certain volumes of the most valuable part of the collection, beginning in 1832, and that in that way the society might get a very desirable set.

On motion of Dr. Gabert a vote of thanks was tendered both Dr. Chassaignac and Dr. de Roaldes for their gifts.

The name of Dr. J. A. Storck was proposed for membership by Dr. de Roaldes.

The president announced having appointed Dr. Formento and Dr. Gabert the committee to correspond with the Committee on the National Quarantine bill of the New York Academy of Medicine, as per minutes of the preceding meeting.

Dr. Meek, of Camden, Arkansas, was introduced to the society and welcomed to a seat.

Dr. Chassaignac, chairman of the Judiciary Committee, reported favorably on the names of Dr. R. Bohn, Dr. Geo. Bel and Dr. W. S. Bickham. Dr. Bloch and Dr. Mainegra were appointed tellers. A proposition to vote upon the three names at one time was ruled out of order and the ballot proceeded with, resulting in the unanimous election of the three candidates.

#### NEW BUSINESS.

Dr. McShane announced that at the next meeting he would bring up the matter of the advisability of establishing a pest house for diphtheria patients, a case having recently come to his notice in which the patient was very inhospitably treated.

The president at this stage begged the indulgence of the association for five minutes, to permit him to bring in and show them a patient suffering with naso-pharyngeal polypus, who had been operated on several times without the mass having been entirely removed, having last returned, for the fourth time, after two and one-half months. The patient had come to New Orleans from Texas about three weeks before for treatment, at which time the tumor had invaded the pharynx and was held up by a hypertrophied soft palate.

About two weeks before, under the action of the galvano-cautery, it had taken on a very rapid growth, and there was fear that some prolongation of the tumor was invading the base of the brain. Some three days before, in order to increase the field of vision and to prepare it for a good operation, he had thought it proper to slit open the soft palate, upon doing which a severe hæmorrhage followed and the tumor came down about one inch, and at the present moment was almost invading the vestibule of the larynx and was obstructing breathing. The case had been considered fibro-sarcoma at first, but since

that diagnosis was made Dr. McShane and Dr. Borden, of New York, had made careful examinations and agreed in pronouncing it fibroma of the naso-pharyngeal space, and that it was not malignant at all. By the slitting of the soft palate the the post-nasal space was brought into full view and the treatment could be carried on through the mouth instead of through the nasal cavity, as had been done before. Slides showing the microscopical aspects of the case were presented for examination by those interested.

Dr. Scheppegrell prefaced his paper on the Prevention of Tuberculosis by saying that he had no specially novel ideas to present, but wanted to bring up a subject which was of vital importance and which was receiving a great deal of attention at the [North and elsewhere, but which had not been noticed by this association. [See page 561.]

#### DISCUSSION.

Dr. Patton—The subject is of special interest to me, because at the recent session of the Pan-American Congress in Washington I listened to Dr. Flick, of Philadelphia, who detailed at great length and with great emphasis his views on this subject, and little pamphlets (of which Dr. Scheppegrell had brought a number to the meeting) were freely taken by the delegates and carried to their homes. I brought one with me, and gave it to one of the newspapers, with the idea of having them call attention to its points, but I have never seen it printed here.

The clinical aspects of the case will be sufficiently obvious to physicians, so I will treat rather of the public aspects of the question. I believe that in this, as in all other reforms, the education of the people must precede any substantial good results from the carrying out of such a work as has been outlined. It is claimed by Dr. Flick and his co-laborers that the benefits of this system of instructing the public by printed literature are already apparent. In the section where Dr. Flick spoke the question was argued whether it would be wise to insist upon any severe repressive measures by city or municipal authorities, and it was decided that that would be impracticable at present. In other words, people need not be educated up to the idea of the suppression of consumption and other diseases with which they are so familiar, having seen so many friends and relatives die with them, and about which there still exists that feeling of indifference which is one of the most remarkable things about the human disposition—how people will be afraid of what may be called imaginary dangers, while they are in daily association with something really more tangible and more dangerous to which they give no heed.

If you will peruse these tracts you will find the practical



points about the infectiousness of tuberculosis are very forcibly and clearly expressed. It is not unlikely that in the near future an attempt will be made here and elsewhere in this part of the country to imitate the very admirable example of our Philadelphia and Pennsylvania friends in the organization of societies avowedly for the purpose of instructing the people with regard to what they need to know about this disease. It is no use for us to discuss these measures here and agree that it is well to carry them out, unless we can prepare a field among the people of this section in which the seed for this harvest can be planted. It was with this view I intended to have the newspaper publish the tract, to which request, as stated, no attention has been given—I forget what excuse they made. However, if this society takes the matter up and it is in this way brought to the attention of the city society, and especially if all the members would interest themselves in it, when the time arrives, which I hope is not far off, when a society for the prevention of tuberculosis can be organized here, I believe we can accomplish very great good for the public. As Dr. Scheppegrell has pointed out, the difficulties are really very trifling, if people could be brought to see them and to recognize that the danger of the spread of tuberculosis lies in the disregard of the simplest precautions—the destruction of the sputum and such other measures as the doctor has pointed out. I do not think it too much to say that I believe we can count on the assistance of the profession in aiding the authorities when the time comes that authority has to be exercised in controlling the movements of tuberculous patients and in reconciling their friends to the necessity of having a reasonable, but in nowise severe, supervision exercised over the movements and residence of such patients. Of course the people will have to be accustomed to this idea by slow degrees. We can not hope to spring it upon them at once, but if they can be educated to an appreciation of its necessity by previous instruction by means of printed literature, such as we have here to-night, the task will be made easier.

Dr. Patton suggested that the tract be read, but Dr. Scheppegrell stated he had brought a sufficient number for every one present to get a copy.

Dr. Chassaignac moved, in view of the importance of this subject and in order to bring out a full expression of the views of the members of the society, it would be well for the Committee on Scientific Essays to take charge of this matter and arrange for a general discussion of the subject at the next meeting, somewhat as was done with regard to diphtheria at the last meeting.

A member then suggested that at the present, consumption

was not conceded to be a contagious disease, as diphtheria, small-pox, etc., are contagious, and that as the attendance was very fair it might be well to take action on the matter to-night.

Dr. Matas supported the motion of Dr. Chassaingnac, saying it was important that the views of the members should be outlined for the guidance of the committee. The question is a most opportune one, which is attracting attention in all the large cities of the country—Philadelphia started the work four or five years ago, Boston has it under consideration, and New York has gone far ahead in her action looking to the suppression of the disease, Dr. Hermann Biggs, the chief of the bacteriological laboratory there, having declared tuberculosis an infectious and contagious disease—a step our Boston friends have been very careful not to accept or adopt. The discussion would be particularly opportune with us in view of our large tubercular mortality, and we should not be the last to take up the matter for that reason. Let every one give his views, and we may later on formulate something in the way of a result expressing the views of the body.

Dr. Mainegra, while concurring in all Dr. Matas had said, thought that as the society had but twelve meetings a year, it would be better not to consume two meetings with one subject.

Dr. DeRoaldes said that it was not to be taken up at this meeting, but simply touched upon, and something gotten at to form the groundwork for the next meeting; and that the time intervening might very well be spent by the profession in missionary work among themselves. Some of them were not convinced as to the contagiousness of the disease, or as to the position taken now in different countries regarding it. Before attempting to educate the people, the society might with great benefit spend a meeting in really informing itself as to the general condition of this question in its latest aspects. Not every one of the members had followed the subject closely, and some of us would give special attention to gathering up material and then would be prepared to educate the public; and the giving of a special meeting to such an important question would be in line with the practice followed all the year. With regard to diphtheria, the society had sought to impress upon the health authorities that this was an opportune time for the establishment of a bacteriological laboratory, in which the search could also be made for the bacillus tuberculosis. I saw a case a few days ago where a child had, as I thought, typhoid fever, with a temperature of 108 deg., and died three hours after I had seen it. The attending physician viewed the case from a different standpoint, and thought it typho-malarial fever. It was a case where really it was important to have

a bacteriological examination, with the aid of which we could have determined in the course of perhaps forty-eight hours whether the plasmodium was present in the blood. In the course of time, and I hope it will not be long, we will have this great adjunct and can determine whether these fevers, the long continued fever they have been termed, are really typhoid fever or typho-malarial fever, and whether typhoid fever is really increasing, and so clear up points which have formed the basis of discussion at some of our meetings in the past. We have reached conclusions regarding diphtheria, and had a most excellent discussion regarding these fevers, and I think it very proper that we investigate in somewhat the same way what is a most common disease here and devote one evening to a thorough elaboration from a medical standpoint of the subject of tuberculosis, with the data at hand, the result of educational work among ourselves; after which we would be better prepared for the educational campaign among the public, which has been suggested.

Dr. Bloch supported the proposition and seconded Dr. Chassaingnac's motion, which was then adopted unanimously.

Dr. Weber read a paper [see page 567 of this number] on the treatment of diphtheria, and was followed by Dr. Theard, who read notes on treatment, as follows:

I rise to corroborate all the good statements that Dr. Weber has made regarding peroxide of hydrogen in the treatment of diphtheria. This agent is our sheet-anchor in that dreaded disease, and the wisdom of the treatment is attested by the increasing proportion of successful results from its proper use. It is the prevalent method of treatment in America at present, and will become universally accepted in time.

How does the agent act? Some believe that its action is systemic as well as local, but in this opinion I do not concur. Given by the mouth it has undoubtedly relieved the dyspnœa, but I am inclined to believe that the systemic action in that instance was a therapeutic illusion, the good results obtained being really effected locally by the agent on its way to the stomach, and not after reaching it. It takes so little peroxide to dissolve so much membrane!

Peroxide of hydrogen acts instantaneously, powerfully and thoroughly, yet gently, without causing irritation. It is not a specific. It is simply an ideal germicide and dissolvent of false membranes. Even if diphtheria be but the local manifestation of a general systemic disease (which I do not believe), dissolving the membranes is rational; keep on destroying their nest and the birds will go and couple elsewhere. In diphtheria the nidus of the bacilli must be destroyed frequently—in certain



cases as often as four or five times in the 24 hours, and in the laryngeal form always by the physician. I can recall cases where I paid three day and two night visits daily, for five or six consecutive days.

Peroxide of hydrogen is the only agent that removes the membrane thoroughly. It may be applied directly in the larynx and dissolve the membrane there. So that tracheotomy is now, in my opinion, a cruel and useless operation, one totally uncalled for. If the membrane is too far down to be reached and dissolved by the peroxide, it is too far down to admit of a successful tracheotomy. And even if this were not so, before performing a tracheotomy I would rather plunge my hypodermic needle in the trachea and there inject my solution of peroxide slowly, drop by drop, just as Jousset has done with quinine in pernicious fever—a new therapeutic suggestion in the treatment of diphtheria, one for which I claim priority, one which I hope to carry out or see carried out successfully some day in some severe tracheal form of the disease.

Intubation I equally reject, because so seldom practical. It may have some merits; but, in the absence of the physician, what intelligent hand will replace the tube when it is coughed up by the little patient—leaving the tissues far more relaxed than they ever were before the introduction of the tube, and, as it were, collapsing? And what physician will ever consent to make the patient's room his prison, to be there when needed? No one, save perhaps for his own flesh or kin.

Besides, intubation does not remove the membrane, but simply pushes it aside, making a hole through it as it were, and that not a permanent hole, for the tube can be blocked up or coughed up at any time from very slight efforts at coughing.

The peroxide solution used should not be too acid, else it may prove irritating and objectionable. Unfortunately the most reliable preparations on the market are hyper-acid; so it is always safe to add some bicarbonate of soda to our solution.

Peroxide is not toxic in any dose. It is the safest of all solvents.

Dr. Mainegra—I met a confrere to-day, who claimed to have a remedy for the treatment of diphtheria, which was unknown to me, and said that he lost no cases—one having died this morning, the only one in four years. From the components of the preparation as given me it must be a good one. The preparation which he claims dissolves the membrane better than anything else is sulpho-calcine. I know of sulphide of calcium, and other preparations. If any one of the gentlemen here has used this preparation in his practice I should like to have a corroboration of the good effects. From what my



friend stated the membrane is dissolved instantaneously with the use of a simple atomizer, although it re-forms, as we are all aware. I never saw a better illustration of this than in a case I treated about fifteen days ago, which I was on the eve of discharging, and came in the morning to make my last visit, when I found the uvula, the tonsils, and the soft palate, involved again with that grayish-yellow exudation which we are accustomed to consider as characteristic of diphtheria. From my experience, I do not think there is any agent that will destroy the membranes permanently. It very often re-forms in a very short time and to an extent which is alarming. In my hands the systematic use of hyposulphite of sodium in decided doses—2, 3, 4 and 5-grain doses at intervals of four or five hours—has given good results. At night, when there is generally a paroxysm of fever, for which quinine to my mind is not indicated, I have used antipyrin and antifebrin or any of the antithermics which we generally use.

Dr. Gabert—I would ask whether these cases have been examined bacteriologically, because at this date I would not, from my conscience, report so many cases as diphtheritic without having had them examined for the Klebs-Loeffler bacillus.

Dr. Bloch—Jacobi lauded very highly a preparation of slacked lime, but has given it up, as it did not cure all the cases he thought it ought to, and substituted lime water, or made the child inhale the fumes of slacking lime.

Dr. Patton—Dr. Gabert's question reminds me that it might be advisable to mention that at the last meeting of the Board of Health a resolution was adopted authorizing the establishment of a bacteriological laboratory. A committee is charged with the work of estimating the cost and studying a proper location, which naturally should not be in the heart of the city, nor on the ground floor of a building. While this time will not be lost, we hope it will not be long before we have the promised laboratory in operation.

Dr. Theard stated that he would never perform tracheotomy as long as he had a laryngeal syringe and peroxide of hydrogen at hand. The skin of a diphtheritic patient should be respected as much as the skin of a diabetic subject. No one would use a blister in the pneumonia of diabetes; he would not perform tracheotomy.

Dr. Mainegra stated that the physician who had told him of the efficacy of sulpho-calcine was a physician of large practice in an extended field, having several societies, among them the screwmen, and that he has said that sulpho-calcine was *the* agent in dissolving the membrane, being far superior to any other he had tried. For himself, he knew nothing of it, and

was sorry to say that he knew of no agent that was a cure for diphtheria, and did not think there was any cure when the larynx was involved. As long as the membrane does not invade the larynx, the diphtheria yields to treatment, is manageable and the patient gets well. I have used hyposulphite of soda, which we all know is an excellent germicide, with the best of results.

Dr. Gabert—Dr. Theard condemns tracheotomy. I would not condemn any means that holds out a hope of prolonging life. As long as there is life there is a chance of saving it, and we may at least alleviate pain. In the last case I call to mind a child of three years was in the act of dying. The parents spoke of tracheotomy, which was performed and the child got along very well for eleven days, when a sudden change of temperature took place, and the child experienced a change for the worse and finally died. We certainly ameliorated the pain, and the parents had the little one spared for eleven days longer. If you perform tracheotomy you produce an easy death, quite different from that seen when the child dies for want of breath in strangling; and that is certainly to be desired in the way of humanity.

Dr. McShane referred to having translated a paper a few years before from a Spanish journal, in which the injection of a solution of quinine into the trachea was mentioned, and he thought the credit of first putting it into practice was due to that physician, whose name he could not recall.

Dr. Meek said he had been practising medicine in Arkansas for twenty years, but had had very little experience with diphtheria—whether because of better sanitary conditions that prevailed there, or for other reasons, he did not know. He understood that croupous laryngitis and diphtheria were considered the same disease, but did not know what view the Orleans Parish Society held on that question. He sometimes met with croupous laryngitis in the country, where it seemed as though the Klebs-Loeffler bacillus could not be found, but such cases were extremely rare. In his twenty years of practice he had perhaps four cases of diphtheria, and they all died. The last case had been about fifteen months ago, and the membrane was very well developed in the larynx before he saw it. He used peroxide of hydrogen very freely and gave bichloride of mercury every half hour. The patient lived about sixteen hours after he first saw the case. He would have performed tracheotomy but postponed it to a more suitable season, and meanwhile was sent for again, and when he arrived the patient had died. He had seen one case in which there was no membrane visible anywhere. The breathing had been stridulous

and very difficult indeed. He had not used the laryngoscope because the breathing was so labored he thought it would be of no use. He asked the physician who recommended the injection of peroxide of hydrogen in the larynx if that would not increase the difficulty of breathing at once, unless done very slowly.

Dr. Theard—I have douched the larynx and trachea, and believe the procedure a safe one. The child is momentarily suffocated, but this need not alarm us, as he soon regains his breath.

Dr. DeRoaldes—I can not let the remarks of Dr. Theard pass unnoticed, and must protest against his sweeping assertion regarding the uselessness of both intubation and tracheotomy. We can not now enter into a discussion of the relative merits of either as compared with the use of peroxide of hydrogen in the treatment of diphtheria, for as yet we have not heard enough of this latest treatment, which I am far from condemning. I think we must first establish what are the conditions under which we use these different remedial agents. I think the doctor referred to the use of peroxide of hydrogen in pharyngeal diphtheria, not especially to its use in laryngeal and tracheal diphtheria—I mean to say that most of the cases in which he reports such manifest success from the use of the peroxide the disease involved simply the pharynx and possibly the vestibule of the larynx. I think that when you come to study the cases in which tracheotomy or intubation is practised they are nearly always cases of laryngeal or tracheal diphtheria, as is evidenced by marked stenosis and impending suffocation. Therefore we can not very well compare the efficacy of these different remedial agents with tracheotomy and intubation, for the use of the one is indicated and employed in cases differing in character and localization from those calling for the use of the other.

I do not mean to say, mind you, that either tracheotomy or intubation is a sure means of relieving this stenosis and suffocation; but I do not think that I have to justify here, or even to praise, these measures, for the statistics are sufficient. Take the Boston City Hospital, where the cases run up into the tens of thousands, of which a certain number have required the performance of tracheotomy in cases of diphtheria, and the records show that of these cases 22 and 24 and even 26 per cent. have been relieved of the suffocation and have been cured. It is claimed that intubation has given even better results.

The cases in which these agencies are used are not the same, doctor, I assure you, and I have in mind now a case I saw with Dr. McShane. The patient was an adult, and upon



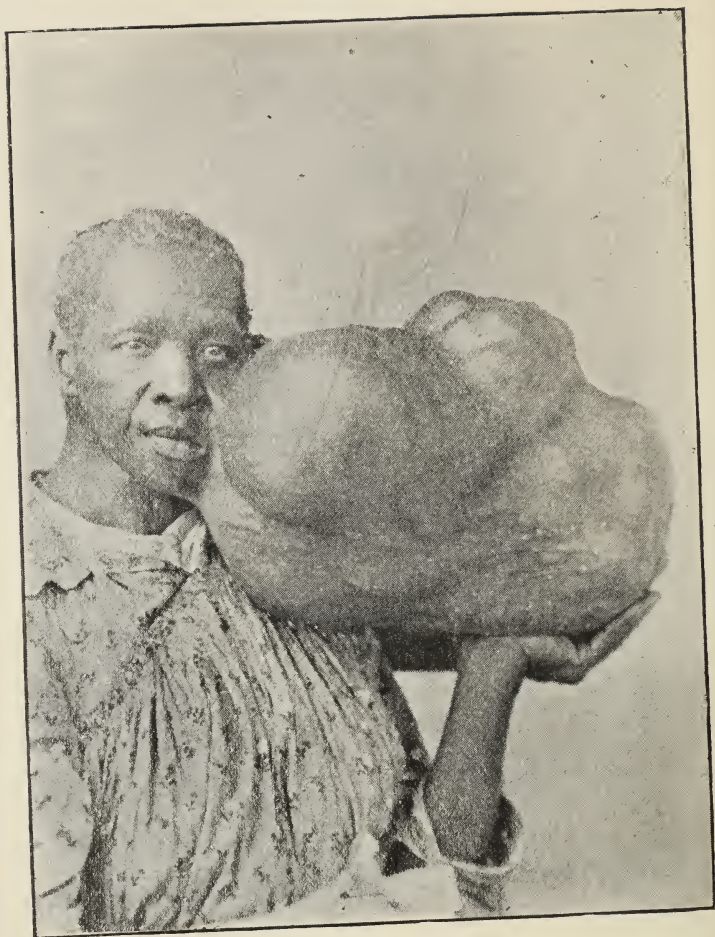
actual examination of the larynx with the mirror we found that one of the arytenoid eminences was so swollen and so large, not so much covered with membrane, that if the other one had been equally as swollen, which was possible, the patient would have been very considerably stenosed, and I doubt very much whether the trachea could have been successfully sprayed. I doubt very much also, except you explain to me that it was done under the mirror, which is very difficult in a child, and except you explain to me that you actually intubate the larynx, by introducing a tube, or an ordinary catheter, passing below the vocal cords and then inject so that you may be sure the agent reaches the trachea—I doubt very much, I say, whether the medication applied by Dr. Theard to laryngeal or tracheal diphtheria would be efficacious. And if efficacious, the question comes up, that if you spray regularly and in quantity the pseudo-membrane, there is great danger that the foamy and whipped-cream-like accumulation resulting from the action of peroxide of hydrogen will tend to further stenose the child already strangled by membranes, or by a swollen larynx.

Pursue this treatment in laryngeal and tracheal diphtheria and I doubt very much whether you would not have to take that child by the feet and shake it, or take a swab and pass it below the vocal cord and clear out the foam, as you would do in a case of tracheotomy when the tube has been clogged up at its lower end by a piece of membrane and immediate suffocation is threatened. You have to displace it and sometimes have to take the tube out, or have them cough it up. Therefore, doctor, while agreeing with you that in my opinion also peroxide of hydrogen is a valuable agent when applied in the early stages of the disease, I can not agree that tracheotomy and intubation are useless, and until we know something more of the peroxide or some other supposed specific, these measures must be relied upon by the profession when they are clearly indicated in certain phases of diphtheria, particularly of the laryngeal type.

The doctor made another statement in which I can not concur. It was when he referred to diphtheria as a local manifestation in the throat of a general disease. I really think it is time we should understand and accept the reverse of that proposition, and, as the true pathogenetic view, consider it a local disease which afterward may become a general affection, and that we should try to make an early diagnosis and treat it with the peroxide when it is local in the throat in its earliest manifestations. We should arrive at a conclusive diagnosis as early as possible and then direct our efforts to the prevention of the formation of the membranes, and the after-production of toxins and the poisoning of the blood.







FIBROMA SPRINGING FROM PAROTID REGION.

So far as we know now I think we may say that tracheotomy and intubation will always meet certain indications, whilst peroxide of hydrogen will have its own field of usefulness, meeting certain other indications, and will retain it.

Dr. Theard—I have never used the mirror, but have opened the glottis with the finger. I have never had to take a child by the feet and give it a shaking to relieve suffocation; though they very often, in fact they generally, get very red in the face during injection.

Dr. DeRoaldes—I mentioned the inversion and shaking of the patient because I knew a case where it had been done.

Dr. Meek—Was that an injection into the trachea, not a spray into the throat or into the larynx?

Dr. Theard—It was a douche, not a spray, blocking the larynx for a moment and suffocating the child, and using the douche until the membrane was dissolved, like soft soap, and the child coughs the soft membrane up. I use a 50 per cent. solution and it dissolves the membrane almost immediately.

#### EXHIBITION OF SPECIMENS.

Dr. R. Matas exhibited a photograph of a negress having an enormous fibroma growing from the left parotid region. She is a patient of Dr. J. W. Plunkett, of Flora, Miss., to whose courtesy Dr. Matas is indebted for the photograph. The accompanying engraving accurately portrays the size and general appearance of the tumor.

Dr. McShane exhibited photographs of a congenitally malposed right kidney.

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#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

##### A NEW METHOD OF EXAMINING THE KIDNEY, ESPECIALLY FOR STONE.

By CHARLES P. NOBLE, M. D., Surgeon-in-charge of the Kensington Hospital for Women, Philadelphia.

I desire to report a short history of the following case, together with an exploratory operation which I performed to enable me to examine her kidney, including the pelvis of the kidney and perhaps one inch of the ureter.

Mrs. T. S., aged 37 years, mother of three children, enjoyed good health until six years ago. Since that time she has been more or less an invalid, and for the past six months she has been absolutely an invalid, unable to attend to her duties.

The prominent points in the history are that she has had three well marked attacks of hæmaturia, accompanied by violent renal colic (so-called); and that, at least twice, she has passed good-sized stones, the last one coming from the left kidney. In addition to this history of violent seizures of renal colic, she has suffered frequently with milder attacks of paroxysmal pain referred to the region of the right groin, the pain being perhaps most acute just above the right trochanter major. Recently these attacks have been of daily occurrence, and have been brought on when she was on her feet. She is usually, but not always, comfortable when in bed, but shortly after any attempts at walking the pains come on. The sexual organs are normal, with the exception of a trifling tear in the perineum. The urine has been examined many times and has a very uniform composition. Its specific gravity has varied between 1020, 1013, and 1018; it is acid, and contains pus, bladder epithelium and ureteral epithelium, but none from the pelvis of the kidney. The urine from each kidney has been examined separately—the urine being obtained by means of the ureteral catheter. Examined in this way it has been found that the urine from each kidney is much the same, the pathological elements it contains being somewhat more marked on the right side. This difference, however, was distinctly marked with reference to the two sides. The urine from the left kidney has always flowed through the ureteral catheter freely and regularly; that from the right kidney has not done so. Upon two occasions the ureteral catheter remained in position upward of twenty minutes, and not more than one or two drops of urine flowed out. Upon another occasion, after waiting thirty minutes with the same result, suddenly 120 minims poured out.

Taking all the facts of the case into consideration the conclusion seemed fair that there was a stone in the right ureter, and that probably this was in the pelvis of the right kidney. Several attempts were made, both by Dr. Howard A. Kelly and myself, to pass a ureteral sound along the ureter toward the kidney. It was not possible to make the sound reach above the brim of the pelvis. It was therefore proposed that an incision be made in the loin for the purpose of examining the kidney and the upper portion of the ureter from above.

My experience in performing nephrorrhaphy for movable kidney after the technique of Dr. Edebohls has taught me the facility with which a *movable kidney* can be drawn out through an incision in the loin. So far as I know, no one has ever treated a non-movable kidney in this way. It occurred to me that this might be feasible, and that at all events an attempt judiciously made could hardly be a source of danger.



Accordingly on December 12 I made the usual incision in the loin down to and through the peri-renal fat, exposing the lower end of the kidney. With the index finger the kidney was then separated from its connective-tissue attachments and gradually drawn down and out through the wound, so that it was entirely outside. It was now a very simple matter to explore the kidney by thumb-and-finger pressure, and to make certain that it was in a normal condition. It was equally easy to examine the pelvis of the kidney and to determine that this contained no stone. Perhaps one inch of the ureter also was within reach.

As nothing abnormal could be felt, the kidney was replaced within the abdomen and the incision was sutured in the usual way—buried silkworm-gut sutures being placed in the muscular layer and superficial silkworm-gut sutures in the skin. No unfavorable reaction followed this operation, and so far as the operation itself was concerned the patient made an uninterrupted recovery. Unfortunately the operation has produced no effect whatever on the symptoms, which are the same now as before it was done.

I report the case simply to bring before you this method of examining the kidney. From my experience in this case and in cases of movable kidney, I believe it will be a simple and safe matter in the hands of a skilful surgeon, who has had some experience in kidney work, to remove through an incision in the loin all non-suppurating kidneys having approximately the normal size, for the purpose of a careful examination. The procedure is certainly not one of much gravity, and when done under the conditions laid down should have no mortality. Tentatively I would recommend the adoption of this method of exploring the kidney whenever the symptoms point to the presence of stone in the kidney or its pelvis, and when these symptoms are of sufficient gravity to invalid the patient. I feel confident that as compared with the ordinary method of exploring the kidney through the depths of the incision in the loin, the kidney itself being largely or wholly above the level of the ribs, and imperfectly palpated because of its movability, or examined by means of a puncture with an exploring needle, there can be no question of the superiority of the method proposed and herewith reported.

Upon theoretical grounds this procedure would not be applicable in cases of abscess of the kidney. Under these conditions, supposedly the kidney would be fixed and not easily separated from its connective-tissue bed. Moreover, it would be enlarged, and in addition to this there would be the risk of rupturing the pus sac, perhaps inadvertently into the peritoneal cavity.

## NEW YORK ACADEMY OF MEDICINE.

## SECTION ON ORTHOPÆDIC SURGERY.

Stated meeting December 15, 1894; W. R. Townsend, M. D., chairman.

## CONGENITAL TORTICOLLIS.

Dr. Royal Whitman presented two cases of congenital torticollis complicated by the induration of the sterno-mastoid muscles. The induration was not the cause of the torticollis, but was secondary to it.

The first infant, now five months of age, was first seen at the age of three months. There was at this time well marked left torticollis, hemiatrophy of the face and congenital club-foot on the same side. In the middle of the contracted muscle there was an induration the size of a pigeon's egg. The labor was normal. The distortion of the head and the induration were noticed by the mother on the fourteenth day after birth. This induration in the muscle could still be felt, and the torticollis and hemiatrophy of the face were very evident.

The second infant, now seven months old, was first seen at the age of six weeks. Then, as now, there was marked torticollis, and an induration in the muscle, similar to that in the preceding case. In this case the child was delivered by forceps after a difficult labor. Immediately after birth the mother noticed the distortion of the head.

That the torticollis in the first case was of intra-uterine origin was shown by the hemiatrophy of the face and by the club-foot. That scar contraction had nothing to do with the deformity in the second case was proved by the fact that the deformity was noticed immediately after birth. Injury at birth might have caused the deformity, but not scar contraction following rupture of muscle. Simple rupture of a normal muscle, shown by induration, was not as a rule accompanied or followed by torticollis.

## POTT'S PARAPLEGIA.

Dr. Whitman also presented a case of Pott's paraplegia, in which a rather unusual form of paralysis was the very first symptom. About the 1st of last October the child, 2 years of age, was noticed to be stumbling; when first seen by the speaker about two weeks later there was not the slightest pain and no angular deformity. The paralysis was of the flaccid type, like that of anterior poliomyelitis. At the present time, two months after the appearance of the paralysis, there was still no angular deformity of the spine, although a change in

outline, due to muscular spasm, was apparent. Within a week there had been complaint of pain, and the paralysis was now of the spastic type.

#### PERSISTENT PSOAS CONTRACTION.

Dr. Whitman presented still another patient, a boy 9 years of age, who illustrated an extreme and persistent psoas contraction. When first seen about two years ago there was deformity of the mid-dorsal region with slight psoas contraction; subsequently while under the care of an instrument maker an abscess formed, which opened spontaneously. The deformity of the spine was not well marked, and the leg was firmly held at a right angle with the body. It was probable that an extensive tenotomy and fasciotomy would be required to bring it down to the normal line. He was inclined to think that if psoas contraction were allowed to persist it exerted a very unfavorable influence on the deformity because it was impossible to maintain by apparatus a proper attitude.

Dr. V. P. Gibney said the occurrence of paralysis before the deformity was exceedingly rare, and in a series of fifty case of Pott's paraplegia which he collected at one time, it was the rule for them to develop at first a little stumbling, but examination failed to show exaggerated reflexes until some time later. It was well to emphasize the fact, so apt to be overlooked by the general practitioner, that Pott's disease may occur without the pain or other usual signs described in the books. These are the slow cases of "*caries sicca*."

He did not agree with Dr. Whitman that it was necessary to treat the psoas contraction itself under ordinary circumstances. If one could exclude hip-joint disease, there need be no hurry about such treatment directed to the contraction.

Dr. Whitman said that psoas contraction caused by true psoas abscess, that is abscess within the sheath or substance of the muscle, was very likely to become permanent distortion, as illustrated by the case that he had presented—a distortion which made it impossible for the child to stand erect. Psoas contraction was best treated by temporary rest on the back, and by the direct treatment of the abscess which caused the contraction.

#### THE LORENZ TREATMENT OF HIP DISEASE.

Dr. V. P. Gibney presented a patient with hip disease who was being treated by the Lorenz method. This consists in applying a plaster of Paris spica bandage to a point midway between the knee and the foot, and then on the following day adding an iron stirrup which projects beyond the foot and is

secured by a starch bandage. It is claimed that with a high shoe on the sound foot the patient is able to go around easily. It would probably prove very useful where a good perineal crutch was not easily obtainable.

#### EXCISION OF THE HIP.

Dr. Gibney presented several cases of excision of the hip. The first one was that of John K., who was admitted to the hospital on October 3, 1892, at the age of 8 years. The limb could then be flexed to 110 deg. and extended to 145 deg. After about one month of treatment in bed with the weight and pulley, a hip splint was applied. On December 2, an abscess was aspirated, but as it soon refilled and began to burrow, a partial arthrectomy was performed, and by the following February extension and flexion were nearly normal. On May 31 he was discharged, still wearing the splint. There is now about one inch of shortening, flexion to nearly 90 deg. and extension to 170 deg.; the other motions are very fair, and the hip seems to be quite firm.

The second case was a boy admitted on October 12, 1891, at which time there was but a small range of motion. The disease began the year previous, and during that year he had an abscess. As there was marked abduction, it was treated with the Taylor abduction brace. On November 21, 1891, the limb could be extended to 170 deg., but the limb was everted. On January 6 it was noted that he was wearing a Thomas brace, and that there was much spasm and tenderness. An abscess on the anterior aspect of the limb was aspirated, and a few drops of pus removed. On May 17, the trochanter major with the head and neck of the femur were removed. He remained in the country all that summer, and in the following November it was found that extension could be made to 180 deg. and flexion to 110 deg. The next March an abscess formed in consequence of a fall, so it was incised and several ounces of pus evacuated. He was discharged the following September without a brace, but wearing a one-inch high shoe. At present the limb comes down straight, and can be flexed to 90 deg.; there is little resistance to abduction; there is slight adduction and rotation, and one inch shortening.

The third case was a boy who was 4 years old when his disease began in February of the present year. He was admitted in June, and in spite of repeated aspirations a large abscess with marked deformity persisted, so that on November 10 excision was performed. The wound healed very rapidly. On December 15 a jointed Dowe's splint was applied.



The fourth case was a boy  $5\frac{1}{2}$  years old, with a double hip-joint disease which began in May, 1891. His right hip was excised in Christ's Hospital, Jersey City, three months after the beginning of the disease. When first seen by the speaker the left hip was painful, and there was an abscess in this locality. The joint was excised on November 24 by posterior incision, and the head and neck removed. The case has done well.

These cases were presented to show that in hospital practice there is a certain number which seem to require excision, and which do well after it. None of the cases had a weak joint.

Dr. A. M. Phelps said he had seen this Lorenz brace applied many times. It was better than the Thomas splint, for it protected the limb, and it was superior to the long traction splint, for the cases treated with it did not recover with the angular deformity so commonly seen after the use of the long traction splint. The objections to the Lorenz splint were that it was cumbersome, that the patient walked upon it, and it did not apply extension in the line of the adductor muscles to prevent inter-articular pressure. With it abscesses were just as frequent as with the Thomas splint, and there was almost always shortening.

He heartily agreed with all that Dr. Gibney had said about the cases of excision. He had abandoned aspiration of abscesses, for eventually they must be incised. If by aspiration the presence of pus in a joint were detected, the sooner the abscess were incised, the better. By this means one was also enabled to explore the joint with the aseptic finger and so determine whether or not an excision was required. No one could tell this from external examination alone. He favored the posterior incision and the removal of the great trochanter in order to secure free drainage; in short, Dr. Sayre's method of leaving the periosteum and packing the wound with anti-septic gauze was still the best mode of treatment.

The chairman dissented very emphatically from the opinion that the aspirator was useless, and that all these abscesses should be incised. In a series of cases of abscess which he had collected, nearly 50 per cent. were permanently relieved by aspiration. There were many abscesses situated near joints which were not intra-articular, and also many abscesses supposed to communicate with a joint until examined at the time of operation, when it was found that they did not.

Dr. N. M. Shaffer said no abscess was opened in the Orthopædic Hospital during the year, yet he would be perfectly willing to compare his results with those of Dr. Phelps.

Dr. Reginald H. Sayre objected to the Lorenz treatment, as shown in this patient, on the ground that a good deal of pressure was borne by the hip, because part of the weight fell on the condyles of the femur instead of on the ischium. He had been much pleased with the cases of excision, and he would contrast the motion in these joints with the ankylosed joints which Dr. Whitman said at the last meeting the Germans considered to be superior. The European operators were not careful to save the periosteum.

Dr. Halsted Myers said that in connection with this discussion he wished to report a case. A girl when 6 years of age developed hip disease, and two months later an abscess formed. After wearing a traction splint for six months the joint was excised. She was kept in the hospital without a brace for a year, and was then discharged "cured." Soon after this she slipped, and another abscess developed. She was again admitted, and five months later was discharged cured. Three years after this she had another fall, and another abscess appeared, which was cured in three weeks. One and a half years afterward still another abscess formed, and was cured in four months. In September, 1893, or when she was 14 years old, there was found to be  $3\frac{1}{4}$  inches shortening, an increase of three-eighths of an inch in the last two years; there was also slight telescoping. The motions allowed in the joint were: flexion 180 deg. to 140 deg., adduction 30 deg., abduction 10 deg., and considerable rotation. She had no abscess, no pain, and no longer wore a brace. She limped badly, but did not tire easily. The case seemed to show that after such excisions the shortening might be steadily progressive, and also that all the disease was not removed at the time of excision, else there would not have been these frequent abscesses.

Dr. Whitman said he had been misunderstood at the last meeting, for at that time he was speaking of excision done as a last resort, and not of the class of cases represented by the patients just presented. Reproduction of bone after excision with a firm and movable joint was a result to be hoped for, but not confidently expected.

Dr. Sayre regretted if he had misquoted Dr. Whitman, but he had himself recently noticed a number of German articles in which it was stated that a stiff joint represented the result which should be sought for after excision for tubercular disease of the hip.

Dr. Gibney, in closing the discussion, said he regretted that Dr. Phelps still persisted in the belief that every abscess in a tubercular joint should be incised. Regarding Dr. Sayre's case he said he did not see how the limb could grow when the

upper epiphysis had been destroyed, whether by cicatricial tissue or by the removal of the epiphysis.

#### EXCISION OF THE TARSUS FOR CARIES.

Dr. A. M. Phelps presented a girl who had been brought to him at the Post-Graduate Hospital two months before with disease of the tarsus and the end of the tibia. At the operation it was found that the disease involved the astragalus, os calcis, cuboid and scaphoid bones, as well as the ends of the metatarsal bones and the end of the tibia, so these parts were all removed, leaving a shell of bone with the periosteum. At the end of six weeks the case was dressed, and it was then found that there had been perfect reproduction of the entire tarsus, and of nearly all of the metatarsal bones, together with the end of the tibia. Finding a metastasis in the scapula, the spine of this bone was removed.

Dr. Gibney said he had treated very successfully a number of cases of extensive disease of the entire tarsus without operation. The results were perfect in the great majority of such cases.

Dr. S. Ketch said that very badly diseased tarsi were often cured by simple protection and avoidance of traumatism and pressure. It had been his experience that disease of the ankle joint was usually followed by better functional results than disease of the other articulations.

Dr. Phelps said that when on cutting into the tarsus the bones were found separated and necrotic, he did not think any protection would be of much importance.

#### LAMINECTOMY FOR TUBERCULAR DISEASE OF THE SPINE.

Dr. Carl Beck presented a patient on whom he had performed laminectomy. He was first seen two years ago, and was then three years old. Resection of the shoulder was first performed for the removal of tubercular foci in the humerus. One year later it was found that there was some rigidity and pain in the spine. He was treated for some time in one of our hospitals, and when he came again to the speaker it was found on removing the plaster dressing that there was a kyphosis. He was greatly emaciated, and there was a large fluctuating tumor in the left gluteal region. An incision was made into this abscess, and after inserting a drainage tube and gauze he was placed in a Rauchfuss apparatus. After three weeks a plaster jacket was applied, and he was treated as an out-patient. Soon after a prominent kyphos appeared at about the ninth dorsal vertebra, and the child had paraplegia. An incision was made from the seventh to the last dorsal vertebra, and on exposing

the spinal cord it was found that the meninges were hyperæmic and thickened. Free drainage was established for the abscess, and the fistula curetted and packed with gauze. He was again placed in the Rauchfuss apparatus. His condition had greatly improved since the operation, and he hoped that eventually the child would be able to discard the plaster jacket. The open treatment, the speaker considered the treatment *par excellence*.

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## THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

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Gentlemen who contemplate attending the Eleventh International Medical Congress, which meets at Rome, March 29 to April 5, will not be able to secure the reduced rates offered by steamship lines and European railroads unless provided with the following documents:

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CHARLES A. L. REED, M. D.,

*Member of the American Committee of the Eleventh International Medical Congress, 487 West Sixth Street, Cincinnati, O.*



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## Editorial Articles.

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### THE NEED OF PROVISION FOR CONTAGIOUS DISEASES.

At the January meeting of the Orleans Parish Medical Society, a member introduced a subject that had never been prominently brought forward because nothing had ever occurred to bring the profession to a realization of a deficiency in the matter of providing for cases of contagious diseases. In the early part of January a patient was brought from the country (about a three hours' ride) suffering from a severe, acute throat trouble. She was denied admission to several institutions for the care of the sick, and she was quartered in a public hotel. In time, a bacteriological examination of the pseudo-membrane was made, and the case was seen to be one of undoubted diphtheria. The patient was promptly moved from the hotel to another locality, where she died in about a week. The circumstances of the patient's family enabled her to secure constant attention, that would have been impossible to a person of very limited means. It is impossible to say how much the moving about of the patient in question contributed to the fatal result.

The institutions that refused to receive her can not be blamed for doing what they did. The rules of most hospitals positively forbid the admission of patients suffering from contagious diseases. This protects those who are already under their roofs, who may be susceptible to the disease, but it does not reach the sufferer in search of shelter. In a city located like New Orleans, being the converging point for many lines of travel, we may expect visits from a number of sick people living in the surrounding country, where medical aid is not within easy reach. In such cases the patient is sent by his friends to this city, where, as everybody knows, we have ample hospital facilities for all classes of disease—except contagious diseases. This gap should be closed. It is true that we have a place where cases of small-pox, leprosy and other contagious and infectious diseases are received, for the care of which the contractor receives a stipulated sum from the city. Last month three cases of small-pox appeared in the city. One of them, a negro, was sent to the pest house; but he did not seem to be pleased with his surroundings, so he walked out. There was no proper watch set, and the negro just went when he pleased. He threw the health officers into a severe fright, for he could not be found, and as long as he wandered where he listed the people near him ran the risk of catching the disease. It was only by a fortunate chance that the disease did not spread.

In casting about for a way of meeting the danger arising from the importation of cases of infectious disease or providing for the care of indigent persons who develop the disease in our midst, we need not rely upon existing arrangements; if we do, we lean upon a broken reed. As a municipal duty, it seems to us that our constituted authorities should provide adequate means for the care of the class of cases under discussion. A pavilion, or wing, for infectious diseases could be built in connection with some institution already established, in which a competent staff of physicians and nurses is always on duty, ready to receive any case of infectious disease that may present itself.

The Charity Hospital at once occurs to us as the institution most suitable for the purpose. It is possible, we think,

for a department to be set up in which infectious cases could be attended to without danger to the inmates of other departments. A still better arrangement would be to have a separate hospital exclusively devoted to the care of such cases, but in the practical absence of such an institution, we think that a pavilion added to the Charity Hospital, or the New Orleans Sanitarium, or the Touro Infirmary, would fill a large gap, and relieve us of the opprobrium of not providing properly for persons rendered helpless by disease.

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## Abstracts, Extracts and Annotations.

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### SURGERY.

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#### REMOVAL OF NASAL POLYPI OF MANY YEARS' GROWTH UNDER AN ANÆSTHESIA PRODUCED BY HYPNOTIC SUG- GESTION.

By A. J. BRADY, L.K.Q.C.P., L.R.C.P., etc., and J. M. CREED, L.R.C.P., M.R.C.S., etc.

The subject of the interesting paper of my collaborator, Dr. Brady, is the same patient who was present at the meeting of the Branch on May 5 last, when I read notes in reference to his recovery from persistent and severe asthma of long standing. Since that date, notwithstanding he has had to go to his work in all weathers, he has had no return of his former distressing symptoms of dyspnœa, so severe as frequently to threaten suffocation, and which, prior to his treatment by hypnotic suggestion, had been constantly present in greater or less intensity. He has had more than one attack of catarrh, but even when thus troubled he suffered but little from asthma. Formerly walking, especially up stairs, was most distressing to him, and in a short walk he would be compelled to rest frequently. Now he can exert himself without bringing on his formerly easily-provoked spasmodic difficulty of respiration, and says he feels in better health than he has done for years. There has been, however, no special improvement in this particular directly traceable to the removal of the nasal growths. I may mention that from his nose having been blocked for so long a period he had acquired the habit of breathing only through his mouth, and except his attention was especially

directed to it, he continued to do so after the removal of the obstacles. Under suggestion when hypnotized he at once commenced to respire through his nose, keeping his mouth closed without conscious effort. This, I have no doubt, will have a permanently beneficial effect in relieving the chronic bronchitis, from which he still more or less suffers, though it has lost its former severity.

#### NOTES BY DR. A. J. BRADY.

May 10, 1893.—C. Sadler, aged 52, was brought by Dr. Creed to be treated for nasal polypi, and said that he had not breathed through his nose for twenty years, but that the surgeons whom he had consulted in England had declined to operate, as they thought he was not strong enough. He suffered much from asthma and bronchitis, but since Dr. Creed had treated him by hypnotic suggestion the former had left and the latter had been much relieved. On examination, both nostrils were found to be packed with polypi, showing plainly at the anterior nares, and by the rhinoscopic mirror were seen to project into the naso-pharynx. The obstruction to nasal breathing was complete, for the smallest quantity of air could not be forced in either direction through the nose. He was very dull of hearing. Dr. Creed hypnotized him, and suggested that he would feel no pain during the operation. He at once went into a deep sleep, and became, like a lay figure, so that in whatever position his head was placed it remained. I proceeded with a sliding snare to remove some of the growths from the right nostril, and succeeded in taking away several. I found, however, that the growths were so dense and associated with such marked hypertrophy of the middle turbinated bones to which they were attached, portions of which would have to be removed, that I determined in future to use an ecraseur snare. The patient on this occasion suffered from some temporary shock after the operation. He, however, quickly recovered on being placed in a horizontal position. This symptom entirely disappeared during subsequent sittings, the hypnosis being apparently equally profound. The thought has occurred to me that the shock on the first occasion might have been the result of auto-suggestion on the part of the patient, as he had been sent to the Cancer Hospital in England with the idea that the disease was malignant, and the operation had been declined by other surgeons, so that he had come to regard it as a very formidable affair. I merely throw this explanation out as a "suggestion."

On the 17th May patient came with a letter from Dr. Creed, who was unable to be present, saying that the patient



would, when necessary, go to sleep and awake on my telling him to do so. I found that this was so, hypnotic anæsthesia being complete.

On this and two subsequent occasions, the 23d and 26th of May, I worked at the right nostril, removing with Jarvis' snare large masses of polypi, some of them containing portions of the middle turbinated bone. The growths and the hypertrophied bone were so tightly wedged in the nostril that I had to gradually tunnel, so to speak, from the front, as there was no room to push the steel wire loop up to the attachment of the growths at once. On being awake from the hypnosis at the termination of the fourth sitting, he was able to blow through the right nostril. He expressed great satisfaction, and said it was the first time for over 20 years. In two subsequent sittings I further cleared it.

On June 13, when I came to deal with the left nostril, I found that a ledge of bone projecting from the septum would have to be removed before the growths would be accessible to the snare. This I removed with Bosworth's saw and a chisel and mallet. Ordinarily this is a very painful procedure, but under hypnosis he bore it without flinching or showing any sign of pain. A well marked improvement had now taken place in the hearing since the right nostril had been opened, although the left was still blocked. Several subsequent sittings were required before the latter was cleared. On one occasion when, on a Wednesday evening, the patient came, I found to my surprise that I could not hypnotize him as usual. Dr. Creed was an amused spectator in the background; he had, it appeared, "turned the patient off" on the previous Sunday. He promptly hypnotized him and suggested that I should again have my old power, so I was enabled to proceed as before. I noticed on several occasions, when attempting to examine the naso-pharynx, that the hypnosis had in no way abolished the pharyngeal reflex. This may have been due to the fact that it had not been suggested that it would do so. The presence of this reflex had the advantage of preventing blood entering the air passages. The patient has now both nostrils perfectly clear. They will still require occasional supervision for the removal of any growths that may tend to come again, but as the bony sites from which the old ones grew have been removed, only a partial relapse can in any case take place. Specimens (exhibited) give an idea of the size and nature of the growths; perhaps about one-third of those removed are not here shown. Those excised at the first sitting were not preserved, and the patient on several occasions expelled large detached masses after leaving my room.

To sum up the advantages of hypnosis in this case, the patient while in the operating chair was completely passive, his head remaining in whatever position it was placed. He offered no resistance to any manipulations that were required, nor did he suffer the slightest pain. A general anæsthetic would probably have been dangerous, whilst, in addition, the operation could not have been carried out in a similarly cautious manner under general anæsthesia, as with a patient in that condition a good view of the interior of the nose is difficult to obtain, so that the proceedings are necessarily of a much rougher nature; and physiological structures in the nose are liable to be violently torn away in the attempt to remove the pathological ones. From the dense manner in which the growths were packed in the nose, cocaine could not have been conveyed to the sites of their attachment so as to have been in the slightest degree effective in lessening the pain of the operations.—*Australasian Medical Gazette*.

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## MEDICINE.

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### THE HYPODERMIC INJECTION OF SULPHATE OF MAGNESIUM AS A PURGATIVE.

By J. PERCY WADE, M. D., Assistant Physician Maryland Hospital for the Insane.

In 1873 M. Luton made the statement\* that 10 centigrammes of sulphate of magnesium injected under the skin regularly produced purgation. Claude Bernard had previously stated that when injected into the vein Epsom salts produced a purgative effect.

These statements appear to have attracted very little attention on the part of clinicians and slight notice is given to them in works upon therapeutics. However, Dr. Horatio C. Wood (Therapeutics; 8th edition, 1891; page 722) makes a slight reference to the former, although considering the practice a very doubtful one.

Dr. Matthew Hay, who has contributed so much to our knowledge of the physiological action of the saline purgatives, asserts that the sulphates of magnesium and sodium do not purge when injected into the blood, or subcutaneously. In the latter case, he makes an exception in cases where in virtue of the injection a local irritation of the abdominal subcutaneous tissue is produced, "which acts reflexly on the intestines,

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\*Trousseau and Pidoux, Therapeutics, Vol. 2, page 165. Wm. Wood & Co., 1890.

dilating their blood vessels and perhaps stimulating their muscular movement." Dr. Hay also states that when injected into the blood, sulphate of magnesium is powerfully toxic to the system, "paralyzing first the respiration and afterward the heart and abolishing sensation, or paralyzing the sensory motor reflex centres.

The dose that M. Luton used and found to act as an effective purgative was 10 centigrammes, equivalent to 1.54 grs. Acting upon a suggestion of Dr. Rohé, the superintendent, to subject the question to a further clinical observation, forty-six patients were selected who suffered from habitual constipation and required from 2 oz. to 3 oz. of a saturated solution of magnesium sulphate to produce one or more free movements of the bowels.

A 2 per cent. solution of Epsom salts in sterilized water was used. The hypodermic syringe employed had a capacity of 2 drs., and when not in use was kept in a carbolized oil. Just previous to use the needle was sterilized by steam. The dose varied from 1.86 grs. to 4.5 grs. The smaller dose was first tried, and at each subsequent injection was increased  $\frac{1}{2}$  gr. in order to determine whether a slight increase in the dose would cause a free evacuation. It was found that the small dose acted as efficiently as the slightly larger.

In only one case was the largest dose (4.5 grs.) employed. This was a woman in whom 2 oz. of a saturated solution of magnesium sulphate had previously failed to produce a movement. The subcutaneous injection caused a free evacuation in seven hours.

The sight of the injection was the left arm, at the outer aspect midway between the elbow and shoulder. In none of the cases was there any local reaction at the point of injection. A small swelling or slight tenderness was produced by the distention of the connective tissue which disappeared in a few hours. No induration or abscesses occurred and the slight discoloration of the skin passed off in a day or two.

The injection was made 100 times in the forty-six patients, and was successful sixty-seven times or 67 per cent., and failed to act thirty-three times or 33 per cent.

In fifty-three injections it produced one evacuation of the bowels; in ten it produced two movements, and in four it produced three evacuations.

In only two patients were the injections a constant failure and both of the patients were of the class of melancholia with habitual constipation, who resisted nearly all purgatives.

In nine cases, the injection of 1.15 grs.—one-half the average dose—was repeated in one hour and caused two

evacuations in five cases; in one, three movements; in two, one; in one, failed to act at all. This action shows that a small dose repeated in a short time has a better effect than one single dose of larger size.

In ten selected cases a comparison was made between the hypodermic injection of magnesium sulphate and the exhibition of a saturated solution by the mouth. In seven cases, or 70 per cent., the injection produced free evacuation; whereas 1 oz. given by the mouth acted only in three or 30 per cent.

The shortest time for the injection to produce an evacuation was three hours; the longest fourteen hours—the average being seven hours.

As to the consistency of the stools—forty-five may be said to have been watery, resembling those produced by a free saline purgative; in eleven they were mucilaginous in character, and the remaining eleven were the ordinary stools.

No action was noticed upon the general system following the injection.

In fifty injections noticed one-half hour after the injection, no rise in temperature, pulse or respiration occurred.

The indications for the use of the drug by hypodermic injection are obvious. In cases of gastric inflammation, where a purgative is required and the stomach rebels; in abdominal surgery, where a purgative by the mouth is apt to cause vomiting and in cases where the patient is unconscious and unable to swallow, as in apoplexy, the hypodermic use of this purgative would be valuable.

In none of the forty-six cases did such indications arise, but the work was done as an experiment and to demonstrate the value of the drug as a therapeutic agent when given subcutaneously. No explanation is offered as to its physiological action. That it does act when so given is a fact.

The effect could not be attributed to suggestion, as the patients did not know with what object the injections were made; besides, insane patients are notoriously difficult to influence by suggestion.

As stated before, the injections were always made into the arm, so that the aid of reflex irritation, in the sense of Matthew Hay, can not be invoked in explanation.—*Report of Maryland Hospital for the Insane.*

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## THE USE OF SALOL IN DIARRHŒA

By CHARLES G. L. SKINNER, M. D.

The ordinary treatment of diarrhœa, by a preliminary purge, if the case be seen early, followed by the administration of opium, or the astringent remedies usually prescribed, such



as catechu, kino, hæmatoxylum, chalk, bismuth, acetate of lead, sulphate of copper, nitrate of silver, etc., is often very unsatisfactory; in fact, it is not too much to say that no astringent will arrest a moderately severe attack of diarrhœa, unless combined with an opiate in some form or other; or that the only astringent on which we can rely, with any degree of confidence, is opium.

That epidemic diarrhœa, and possibly many other forms of diarrhœa, is due to the action of micro-organisms may, I presume, be taken as more than probable, even if the particular bacillus to which the symptoms are due has not been isolated; and if so, surely the rational treatment is to use substances which will destroy the micro-organisms causing the disease, and not try merely to arrest the flux, and thereby bottle them up in the interior of the bowel.

Unfortunately, most of the powerful antiseptics are also powerful poisons, and therefore can not be taken in sufficiently large doses to have the desired effect. A further drawback is that the drugs are partially absorbed, and perhaps decomposed, in the stomach, so that the amount of antiseptic which reaches the bowel may be almost infinitesimal. This applies especially to remedies given in the liquid form—pills may pass partially undissolved into the bowel. Those coated with kerafine have been recommended for this purpose, as that substance will resist the action of the stomach acids, and only be dissolved on coming in contact with the alkaline pancreatic juice. Probably, however, the coating swells and cracks in the stomach, and allows partial or complete solution of the pill mass. Notwithstanding these drawbacks, I believe the treatment of diarrhœa by means of the ordinary antiseptics, especially the salicylate of sodium, gives as good, or better, results than the astringent treatment. Can we then find a drug to which the objections above alluded to do not apply? I believe we have such a one in salol. Salol is a compound of phenol and salicylic acid, containing about 40 per cent of the former and 60 per cent of the latter. It is insoluble in water. In acid media it undergoes no change, but in alkaline fluids, and also by the action of micro-organisms, it readily splits up at the temperature of the body into phenol or carbolic acid and salicylic acid.

If then we give salol to a patient it passes unchanged through the acid contents of the stomach, but on coming in contact with the alkaline pancreatic juice splits up into carbolic acid and salicylic acid, which thus exert their full effects on the contents of the intestines, and we have the bowel washed out with an antiseptic solution. If we take into consideration that in diarrhœa absorption in the bowel is no doubt less active than in health, and also that the micro-organisms which abound in

the intestines aid us in compassing their own destruction by splitting up any of the salol which may have escaped the action of the pancreatic juice, I think we must admit that, theoretically at least, salol is more likely to give good antiseptic results than the other drugs more commonly prescribed. A further advantage is that a larger dose of carbolic acid can be given in the form of salol, owing to its non-absorption in the stomach, than if the drug itself is prescribed.

May not the local action of many other drugs on the interior of the alimentary canal be too much overlooked? Some years ago, in a paper on anæmia, the late Sir Andrew Clark, after suggesting as the cause of the disease, absorption of foul gases in the intestines, gives it as his opinion that the value of iron consists, not so much in restoring the red corpuscles, as in forming an astringent lotion to apply to the interior of the bowel, thus preventing the formation of these gases. Do modern therapeutists devote too much research to dilatation and contraction of capillaries and effects on nerve endings, and too little to the immediate action of drugs on the gastro-intestinal mucous membrane?

During an epidemic of summer diarrhœa, of twenty-three cases treated with salol, only one—a child eight months old—proved fatal. In very few cases were more than three or four doses necessary, and rarely were more than one or two loose stools passed after taking the first. Ordinary catarrhal diarrhœa, due to errors of diet, diarrhœa of children, diarrhœa occurring in the course of some other disease, two or three doses seldom fail to arrest, whilst in the diarrhœa of tuberculosis it can generally be relied upon to give temporary relief. It has been recommended in typhoid fever, but I have no experience of its use in that disease, nor am I aware that it has been given in cholera; but it seems to be well worth a trial, and at least as likely to prove effectual as any drug yet employed.

In all these varieties of diarrhœa, the good effects of salol are most probably due entirely to its direct antiseptic action on the bowel contents—destroying bacilli, controlling acid fermentation of food and the putrefactive processes. The sedative action of carbolic acid will also lessen the peristaltic movements and so relieve pain. The dose of salol for an adult is 10 or 15 grains (best administered in a spoonful of gruel or barley water), which may be repeated every hour for six hours; to a child a year old, 1 or 2 grains may be given. It is very rarely rejected by the stomach, and in the above doses does not produce unpleasant after effects.

It is, however, necessary to guard against the possibility of carbolic poisoning by not continuing the administration of the

drug over too long a period, or giving too large or too frequent doses. In one case the patient, a man, aged 54, suffering from ordinary catarrhal diarrhœa, was ordered 15 grains every six hours. He took the first powder at 10 A. M., and by mistake his wife gave him one every *two* hours. At 5:30 P. M. an urgent message was received to the effect that the man was in most violent pain. It was then found that he had taken four powders between 10 and 5 o'clock; had vomited once, had had one loose stool immediately before he was seen; had passed some dark colored urine, and complained of very severe abdominal pain, which, however, subsided after two grains of opium had been given. Next morning he was free from pain, and the following day went to his work.

This patient had taken 60 grains of salol (equal to about 24 grains of carbolic acid) within seven hours, which is certainly an overdose, but 10 or 15 grains given every four or six hours, and not continued for more than one or two days, must very rarely cause any untoward symptoms. And as two or three powders are generally sufficient to check diarrhœa, I think salol deserves to rank among the most useful of recent additions to the *Materia Medica*.—*Manchester Medical Chronicle*.

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#### RHEUMATIC AFFECTIONS OF THE THROAT.\*

By ALBERT E. BULSON, JR., B. S., M. D., Fort Wayne, Indiana.

In reviewing the various literature pertaining to diseases of the throat we find that, until within the past few years, very casual mention has been made of the relation of rheumatism to affections of the throat, and even to the present date many writers fail to attach sufficient importance to the rheumatic character of certain throat diseases, or else, if referring to the subject, treat it with undisguised skepticism. Considering that much of the pathology and pathogenesis of rheumatism is as yet shrouded in mystery, and that a variety of well argued views regarding the essential cause of the disease have been expressed by many prominent authorities, it is not surprising that there should be such a difference of opinion regarding the relation of rheumatism to other than arthritic affections.

Of the three prominent theories pertaining to the etiology of rheumatism (the metabolic, the nervous, and the germ), the germ theory seems to have gained predominance through the results of recent investigations, but whether such theory is ultimately proven correct or not, the nature of the disease has be-

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\*Read before the Delaware District Medical Society, December 19, 1893.

come sufficiently known up to the present time to prove that a rheumatic diathesis may exist in the system through predisposition, inheritance or acquisition, the manifestations of which are seen in many symptoms not previously acknowledged as specifically due to the action of rheumatic virus, the nature of that virus being as it may.

One of the first authorities to definitely advance the view that rheumatic virus has an irritating influence upon the glandular and areolar tissues of the throat was Lenox Browne\*, who insisted upon the rheumatic character of quinsy or phlegmonous inflammation of the peritonsillar tissues. This theory has been subsequently endorsed by many recognized authorities, though yet disputed by a sufficient number of reputable observers to leave some doubt as to the accuracy of the view. Among those to substantiate the theory of Browne is Knox,† who published a report of fifty cases of quinsy, in forty-five of which a distinct history of rheumatism was found, and in all of which alkaline salicylates proved a specific in the treatment. One of the prominent authorities to recently uphold the same view is Bosworth,‡ who places the rheumatic habit first in the predisposing causes of quinsy, and makes the further assertion that "a suppurative inflammation in the cellular tissue surrounding the faucial tonsil, in probably nine cases out of ten, should be regarded as a manifestation of rheumatism." Bean§ gives rheumatic diathesis as the most important factor in the etiology of quinsy, and states as his personal experience that in fully 70 per cent. of his cases there has been a decided rheumatic history. Mules§ acknowledges the irritative action of rheumatic virus upon the throat by an article on "Rheumatic Tonsillitis," and illustrates it by clinical notes from cases occurring in his practice. Cohen¶ holds the view that tonsillitis may be rheumatic or non-rheumatic, and that for therapeutic purposes a distinction between the two is most important. Many writers tacitly approve of the rheumatic theory regarding the etiology of quinsy by advocating anti-rheumatic remedies in the treatment of the disease, prominent among whom is Newcomb,\*\* who gives a history of 169 cases of acute tonsillitis and pharyngitis, 29 per cent. of which had a decided history of rheumatism, and in all of which anti-rheumatic treatment was prescribed, with the result of getting relief in an average of  $16\frac{2}{3}$  hours.

\* "The Throat and Its Diseases," London, 1875.

† Chicago Medical Journal and Examiner, Vol. III, 1886.

‡ "Diseases of the Nose and Throat," Vol. II, 1892.

§ Burnett's "System of Diseases of Ear, Throat and Nose," Vol. II, 1892.

¶ British Medical Journal, March 18, 1893.

¶ Medical News, April 29, 1893.

\*\* Journal of the American Medical Association, 1892.



Among the prominent writers to discredit the rheumatic character of quinsy is Osler,\* who states that it is not in line with his experience to find any connection whatever between rheumatism and tonsillitis, except that acute rheumatism is not infrequently preceded by inflammation of the tonsils. MacKenzie,† Sajous,‡ and Strumpell,|| while casually admitting that a rheumatic diathesis may be an occasional cause of tonsilla-inflammation, broadly assign atmospheric influences as the more prominent feature in the causation of the disease. Sallard,§ in his rather exhaustive thesis on acute inflammations of the tonsil, considers the etiology of the disorder fully from a micro-biological point of view, and says that "the hypothesis which regards tonsillitis as a general infectious disorder, a fever of which the angina is only a manifestation, is the most rational and most in keeping with the majority of facts." North,|| in his discussion of the physiology and pathology of the tonsils, states that tonsillitis and other inflammatory diseases of the tonsils are not always of rheumatic origin, though oftentimes due to an underlying dyscrasia or constitutional taint of the system. He attributes the disease in general to the result of micro-organisms. Rault\*\* defines the acute non-specific anginas as "common acute inflammations developing under the influence of phlogogenous micro-organisms devoid of specificity." Thorner,†† in his etiology of quinsy, gives the disease a bacterial origin and discredits entirely the rheumatic theory, though he acknowledges that rheumatic virus may have an irritative action upon the throat in the production of what he fully describes as "Rheumatic Pharyngitis."

As the general census of opinions expressed very recently regarding the etiology of quinsy seems to favor the idea of bacterial origin of the disease, a few writers, notably North,‡‡ have insisted that anti-rheumatic remedies which relieve this class of troubles do so on account of their anti-germ properties. In evidence of this also has been quoted the statement of Newcomb||| to the effect that out of 169 cases of quinsy, 115 were entirely free from rheumatic history, and in the anti-rheumatic treatment of which the definitely rheumatic cases were relieved in an average of 16½ hours, and the non-rheumatic

\* "Practice of Medicine," Edit. 1892.

† "Diseases of the Nose and Throat," Vol. I. 1880.

‡ "Diseases of the Nose and Throat," Edit. 1886.

|| "Text Book of Medicine," Amer. Edit. 1890.

§ "Les Amygdalitis Aignes," Paris, 1892. From Journal of Laryngology, Rhinology and Otology.

|| Journal of the Amer. Med. Association, 1892.

\*\* "Maladies de la Bouche et du Pharynx," Paris, 1892. From Journal of Laryngology Rhinology and Otology.

†† Burnett's "System of Diseases of the Ear, Nose and Throat," Vol. II, 1893.

‡‡ Journal of the American Medical Association, 1892.

||| Journal of the American Medical Association, 1892.

cases in an average of  $17\frac{1}{2}$  hours, thus showing practically the same results in each group of cases. While he does not consider etiology in his discussion of quinsy, from a therapeutical standpoint he does not hesitate to say that he thinks anti-rheumatic remedies will produce relief quicker than any other form of treatment—leading us to *infer* that he considers rheumatism as one of the underlying factors in the production of the disease.

While it is not within the scope of this paper to discuss at length the pathology of rheumatism and quinsy, I am inclined to say that it is possible that the two diseases have the same etiological origin—that is, are due to the same pathogenetic agents. This is rendered probable by the fact that not only do the same exciting causes promote the two diseases, and an analogy exist in the symptoms, but that it is of frequent occurrence to have a coexistence of the two diseases, or find them following one another. Crossland\* gives the history of a case in which a number of attacks of tonsillitis were followed in each instance by acute rheumatism. Many other writers have stated that tonsillitis, in a large per cent. of cases, can be regarded as the initial symptom of an attack of acute rheumatism, and Cheadle† describes it as one of the phases of rheumatism in childhood with which articular attacks may alternate.

As an evidence of the existence of an underlying dyscrasia in the production of tonsillitis it is a matter of almost universal observation that the disease is hereditary and runs in families, and that one attack renders a patient more liable to subsequent attacks, in those respects following the tendency of rheumatism. It seems evident then that an infective agent is present in the system in the majority, if not all, of these cases, and that an exciting cause only is necessary to set it into activity. As is well known, the exciting cause is exposure to cold or damp, the majority of cases occurring in spring and fall, and in people who are compelled to either live an out-door life or whose vocation renders them particularly liable to exposure.

The absorbent function of the tonsils is well known, and as a pathological process it has been conclusively proven by clinical evidence, Hill‡ and Fox|| having noted the fact that the tonsil furnishes a favoring surface through which the septic poison of scarlet fever and diphtheria makes its entrance into

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\* International Medical Magazine, September, 1892.

† "Cyclopedia of Diseases of Children," Vol. I.

‡ British Medical Journal, Vol. II, 1888.

|| New York Medical Journal, Vol. III, 1890.

the circulation—a view that has been subsequently endorsed by many prominent authorities. North\* states that the tonsils have not only the power of absorbing septic poisons, but furnish a good media for their development, and that organisms which normally exist in the mouth do not cause pathological conditions because of phagocytosis. It is evident then that should the infective agents—through the action of exposure to atmospheric irregularities or other inducing influence—become increased in number or quantity, this process of phagocytosis becomes unduly taxed, and a portion of the pathogenetic agents, instead of being destroyed or held in an inactive state, must of necessity set up an irritation and consequent inflammation. This inflammation being a defensive act, its intensity will depend upon the energy exhibited by the organism to attain the destruction, or render inactive, the infective agents, and the time necessary to accomplish it. The localization of the inflammation will depend upon the resistance of the tissues invaded.

It follows then that the rheumatic virus, if within the system, can, through the stimulus of an exciting cause, produce an inflammation in those tissues that are least capable of resisting its irritative influence, or, if not in the system, may, through absorption, enter the circulation to produce the same results in those tissues that are peculiarly predisposed to the action of such infection.

It has been my custom for some little time, in taking the history of cases of throat diseases, to inquire as to the possible existence, either immediate or remote, of rheumatism in the system. The results obtained from this practice have led me to believe that there is a direct relation between rheumatism and many throat diseases, particularly tonsillitis,—the lymphatic and areolar tissue surrounding and adjacent to the tonsil becoming the specific locality for the action of rheumatic virus, and with it the development of active inflammation. This is further evidenced by the fact that anti-rheumatic treatment has not only proved to be the best form of treatment in any period of the attack, but when administered early enough has effectually aborted the disease.

A summary of my fourteen cases gives five with an immediate history of rheumatism, four with a history of rheumatism in the parents, two with a history of repeated attacks of tonsillitis (showing an underlying dyscrasia), and three without any history of rheumatism or tonsillitis. In the first two cases cited, typical anti-rheumatic treatment was not administered,

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\* Journal of the American Medical Association, 1892.

suppuration occurring in both cases, and the pain continuing unabated until the evacuation of pus. In the remainder of the cases, anti-rheumatic treatment was administered from the first, with the most gratifying results, suppuration occurring in but one of the cases, and in that case the early relief from pain afforded by the administration of salicylates proving the efficiency of anti-rheumatic treatment.

Careful analysis of the history, symptoms, course and treatment of quite a large number of cases of tonsillitis coming to my notice has led me to believe that rheumatism, in its various phases, plays by far the most important *role* in the etiology of tonsillitis, and I do not hesitate to recommend the administration of anti-rheumatic remedies as the best form of treatment for the disease, in either its suppurative or non-suppurative forms. The remedy in this line of treatment that has been most recommended by prominent authorities in discussing the treatment of tonsillitis, and the remedy that I consider *par excellence* in any stage of the disease, is salicylate of sodium, given either alone or in combination. The following described mixture, a modification of the well known formula of Prof. Alonzo Clarke, is easily tolerated by the stomach, and has proved very serviceable in my hands:

Rx	Acid. salicylica.....	3	iii.
	Sodii bicarb.....	3	ii.
	Elix. gaultheriæ.....	3	ss.
	Glycerina.....	3	iii.
	Aquæ.....	q. s. ad.	3 iv.

M. et Sig: Teaspoonful every two hours.

Without the vigorous action of a mercurial cathartic the salicylic compounds often appear to be absolutely worthless, and it is therefore advisable to begin treatment by the administration of either 5 or 10 grains of blue mass (in conjunction with a compound cathartic pill) or a similar dose of calomel, preferably the latter. The local application of powdered bicarbonate of soda to the swollen and inflamed tonsil, as recommended by Bosworth,\* is of great value in controlling the local morbid process as well as mitigating, in a notable degree, the severity of the local pain.

So far as my experience goes, there are few cases of tonsillitis in which the painful symptoms will not abate or be entirely dispersed inside of 24 hours, and often sooner, by following the above treatment.

Rheumatism or rheumatic diathesis is also a predisposing factor in the production of a disease that has been described in some of the very recent works on laryngology as "rheu-

\* "Diseases of the Nose and Throat," Vol. 2, 1892.



matic pharyngitis." This is an acute affection of the throat in which the inflammation generally confines itself to the mucous membrane of the lower pharynx, pillars of the fauces, soft palate and uvula. The attack may precede or follow a rheumatic seizure, muscular or articular, or it may occur repeatedly in rheumatic subjects without other contemporary manifestations of the diathesis.

Owing to the similarity of this disease to the ordinary catarrhal pharyngitis, the true nature of the trouble is oftentimes not discovered until local treatment has been found unavailing, when a treatment directed toward the diathesis quickly proves efficient. One attack predisposes to others, and Ingals\* states that a chronic form of rheumatic sore throat may result from repeated attacks of the acute form of the disease.

The symptoms may or may not be ushered in with a chill, followed by headache, pains in the limbs, loss of appetite, and other evidences of systemic depression. In some cases the whole neck may be painful to the touch, and stiff as in torticollis. The local symptoms consist of a sensation of dryness and stiffness about the fauces, and what is usually described as a pricking, and oftentimes painful, sensation in the throat, more marked when deglutition is performed. The trachea may also become involved, in which case the voice will be hoarse, and possibly cough be present.

Examination of the throat in some cases reveals a diffuse hyperæmia of the whole mucous membrane of the pharynx, pillars of the fauces, soft palate and uvula, which gives the membrane the characteristic scarlet tinge of an acute inflammation, while in other cases the local manifestations are so slight as to tempt the physician to doubt the veracity of the patient in his description of the painful and annoying sensations with which the disease is attended. An interesting case of the latter type, covering a number of attacks of the disease, has been under my care at different times during the past two years, and I herewith give a brief history of the same.

The patient, a married lady, 28 years of age, had suffered for some years with periodical attacks of what she termed "acute sore throat," of unusual intensity. Upon her first visit at my office she complained of a very stiff and painful feeling in the throat, pains in the neck and shoulders, and inability to swallow without great discomfort. Examination failed to reveal any marked evidence of inflammation, and not

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\* "Transactions of the Illinois State Medical Society," 1888.

being able to obtain any history of rheumatism or dyscrasia, I prescribed the ordinary mild treatment for catarrhal pharyngitis. The attack was not mitigated in the least by the treatment, and at the end of ten days the symptoms rather suddenly vanished of their own accord. Some weeks later the patient applied to me for treatment of a second attack, at which time I decided to give anti-rheumatic treatment a trial, and therefore prescribed a mercurial cathartic, to be followed with full doses of sodium salicylate. Relief seemed to be almost magical, the painful sensations passing away within 24 hours, and the patient at the end of that time expressing herself as being "as well as ever." Other threatened attacks were aborted by similar treatment, and the patient, learning the value of the remedies employed, has become her own physician and treats herself successfully.

It is perhaps speculative to assert that rheumatic diathesis is an etiological factor in the production of that most obstinate of throat affections, naso-pharyngeal catarrh, though I am disposed to think that an existing catarrh of the naso-pharynx may be augmented by rheumatism. The more important works on laryngology make only passing reference to rheumatism as an etiological factor in naso-pharyngeal catarrh, though the later text books uphold the view that a certain diathetic condition of the system is essential in order to effect the ingrafting of the chronic form of the disease. Braislin\* states that a clinical study of post-nasal catarrh does not often lead one to ascribe its etiology to rheumatic diathesis, owing to the fact that the latter does not always manifest its presence by giving rise to arthritic symptoms, and the rarity with which joint and muscular pains coexist simultaneously with post-nasal catarrh being probably responsible for the small amount of attention which has been given rheumatism as an etiological factor in this disorder. He believes that not a small proportion of chronic naso-pharyngeal disease is due to the pathological condition vaguely termed "the rheumatic diathesis," and bases his belief upon a clinical study embracing 50 cases of rheumatism, conducted for the most part in the medical clinic of the Long Island College Hospital.

But one case of naso-pharyngeal catarrh coming to my notice has led me to think that the disease might be largely influenced by rheumatic diathesis, and I believe that a more careful study of catarrh of the naso-pharynx than has yet been given it will result in assigning rheumatism as a more important causative factor in the production of the disease. The case

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† "The Rheumatic Throat, a Contribution to the Etiology of Catarrh of the Nasopharynx"—New York Medical Journal, April 22, 1892.

mentioned was one of those stubborn cases that apparently resist all forms of medication, and in the treatment of which I had nearly exhausted all known resources without obtaining the desired relief. There seemed to be, as far as I could discover, absolutely no cause for the continuance of the discharge, but after a number of months of unsuccessful treatment the patient was suddenly attacked with acute rheumatism, necessitating the administration of vigorous anti-rheumatic remedies. Imagine my surprise to find, after the patient's recovery from the rheumatic seizure, that the post-nasal discharge had largely ceased. Acting on the revelation thus obtained I ordered a continuance of a mild anti-rheumatic treatment, with the result of practically curing the naso-pharyngeal catarrh. It would seem, then, judging from the above described case, that the rheumatic virus acted as an irritant to the glandular structures in the naso-pharynx, resulting in the increased formation of mucus.

In conclusion I would add that I believe that a more thorough study of the history, symptoms, and effects of treatment in many of the chronic, as well as acute, throat diseases will prove that rheumatic diathesis is a very prominent factor in the etiology of the disorders, and that the knowledge thus obtained will enable us to abandon the broad and definite term "atmospheric conditions" that now occupies such a prominent position in the discussion of the etiology of throat diseases.—*Fort Wayne Medical Journal, January, 1894.*

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## OLIVE OIL IN THE TREATMENT OF CHOLELITHIASIS.

By B. M. ATKINSON, M. D., of Staunton, Va.

The literature on the subject of biliary calculus is rather meagre, and especially so as to the beneficial effects of olive oil as a remedy.

It is with a desire to add my mite to the relief of suffering humanity, and possibly to give assistance to some member of our profession who may meet with a case of that distressing affection, that I am persuaded to speak of my experience and report a case which, after having gone through the list of the usual remedies, was entirely relieved by the use of the oil.

CASE.—Mrs. G. W. H., age 53, the mother of ten children, the youngest 13 years old, a native of Baltimore, and for the last twenty years a resident of this city. Had her first attack of what seemed to be bilious colic in 1880, from which time until 12th August, 1892, she had frequent attacks, at times as often as once a month, but generally at intervals of

from three to five months. Often a hypodermic of one-fourth grain of morphine with atropia would be required to give relief from the distressing sense of constriction of the diaphragm and the agonizing pain in the right hypogastrium and the epigastrium. At times hot fomentations and a few doses of a carminative would afford relief.

On the 12th of August, 1892, there set in an attack which continued, with comparatively slight relief, until her final restoration about December 1, 1892.

A circumstance of interest I should, perhaps, report. About 1st of October, 1892, there were peculiar and marked evidences of nervous disturbance—*e. g.*: One afternoon, as she sat looking out from her chamber window, a horse slipped and fell in the street, which startled her. Instantly she was seized with a most agonizing attack, which required a hypodermic of a half grain of morphine to relieve.

*Again*, about 10th of October, 1892, I discovered a tenderness on pressure over the spine about the sixth and eighth dorsal vertebræ, which would send a pain shooting through to the region of the liver. The application of a blister to the spine gave relief of all suffering so completely that she was able to make a visit to Richmond.

On 11th November she returned home in a pitiable condition, and from that time her suffering was intense and constant except under the influence of morphia.

Nausea incessant; urine dark, with bile, and thick and loaded with earthy sediment; the eyes and whole surface jaundiced, and there was an utter intolerance of all ingesta.

It now became necessary daily, *P. M.*, to use hypodermics of morphia, from one-fourth to three-fourths grain, according to the urgency of the suffering.

It is needless to say that every remedy, at all promising benefit, was resorted to. In my extremity I was led to try the use of olive oil; being skeptical, however, as to any benefit that could come of its use, and besides scarcely hoping that her stomach could retain it.

On the 25th of November, 1892, I gave her six tablespoonfuls of the oil, and to my great encouragement she retained most of it, and it soon became apparent that it was more acceptable to her stomach than anything else.

I directed that all dejections be carefully searched through a sifter. The next morning, with beaming countenance, her husband showed me eleven calculi which had evacuated during the night. The oil was repeated that day with about the same result; and so, from day to day, until sixty-four calculi were collected—varying in weight from  $6\frac{5}{8}$  grains to  $\frac{3}{16}$  of a



grain; in size from that of a green garden pea to a large mustard seed, and of every polygonal shape. None were round, but showed that they had been impacted in the gall-bladder, but not cohering.

Straightway then she began to amend; her appetite was restored, and strength and health recovered, and since that time she has enjoyed excellent health.

Before I close I would inquire, what is the *modus operandi* of olive oil in causing the discharge of biliary calculi? How does it pass from the broader alimentary tract up into the narrow duct in sufficient quantity to act even as a lubricant? In view of the anatomical relation of the parts, one would scarcely look for such a result; but that it does is, to me, established beyond a doubt. I hope that my inquiry will awaken interest on the subject.

*Again*, biliary calculus being of more frequent occurrence in females than in males, is it a fact that it most frequently occurs in women who have borne many children? *And again*, can the upward pressure of the gravid uterus, by mechanical interruption of the flow of bile from the gall-bladder, give opportunity to the earthy materials of the bile to collect and concrete into stone?—*Eng. Med. Monthly*.

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#### HYPODERMIC INJECTIONS IN NEURASTHENIA.

Mathieu (*Gaz. d. Hop.*, September 7, 1893), in reviewing this form of treatment, is inclined to believe that much of its efficacy is due to suggestion similar to the effect of suspension in tabes, and to that of twenty or thirty different medicines in phthisis. He objects strongly to the use of organic liquids, but has not the same objections to the use of saline injections, as they can be employed without danger if proper antiseptic precautions are taken, and if the injections are made sufficiently deep. He thinks that there is no doubt that small transfusions of serum, to the extent of 25, 50, or 100 centimeters of liquid, raise the tone. He has obtained almost miraculous results in neurasthenia with a liquid composed of 4 grammes of phosphate of soda, 2 grammes of chloride of sodium, 20 grammes of neutral glycerine, and 80 grammes of water, but he does not attribute any specificity to the liquid. Recently, with 2 centimeters of the liquid, he resuscitated a neurasthenic who was scarcely able to leave his bed; but Mathieu added a strong dose of suggestion to the above formula, and he believes more in the latter than in the phosphate of soda.—*Brit. Med. Jour.*  
—*Nashville Jour. Med.*

## SUMMER DIARRHŒA OF CHILDREN.

In the summer diarrhœa of children Dr. Stuart Patterson (*Pittsburg Med. Review*, Aug. 19) employs magnesium sulphate. In the cases mentioned by him the ages ranged from one to six years. The dose and mode of administration of the remedy were as follows: The mother was directed to give to a child a year old an even teaspoonful of sulphate of magnesium, sufficiently moistened to swallow, as soon as she arrived at home, the process to be repeated in the morning, and the child to be brought back to me at 3 P. M. on that day, that being the hour of my service at the dispensary. This procedure was repeated daily at the same hours till the discharges became yellow. For the older children the dose ranged from a heaping teaspoonful to a heaping tablespoonful. The after-treatment consisted of general tonics and prophylactic precautions. The former were selected according to the necessities of each case. The most frequently used were syrup of iodide of iron, cod liver oil, compound syrup of hypophosphites, strychnine, pyrophosphate of iron, etc.—*College and Clinical Record*.

## LONG-CONTINUED RECTAL ALIMENTATION.

A case of successful, long-continued rectal alimentation is reported in the care of Dr. Maragliano (*Le Bulletin Médical*, No. 86, 1893), which certainly meets the objection so often raised, that no real nourishment is obtained from rectal feeding. The patient, a woman, had a circumscribed peritonitis from perforated gastric ulcer. For ninety-four days she was kept continuously upon exclusive rectal feeding. In this time the patient lost but 2,700 grammes in weight. The diet consisted of the following enemata:

Lean beef.....	300 grammes.
Pancreas.....	150 grammes.
Mix well, rub in a mortar, and strain; then add:	
Water, q. s.	
Carbonate of soda.....	5 grammes.
Fresh ox-gall.....	25 grammes.

This suffices for four enemata a day when diluted with a sufficient amount of tepid water.—*Boston Med. and Surg. Jour.*

## SOME CONSIDERATIONS IN THE TREATMENT OF VALVULAR HEART DISEASE.

By AUGUSTUS A. ESHNER, M. D., Adjunct Professor of Clinical Medicine in the Philadelphia Polyclinic.

*Gentlemen*—This case presents certain features of interest that may be profitably enlarged upon. It is that of a girl, 20

years old, who has been employed as a child's nurse. She first presented herself rather more than three months ago, looking pallid and distressed, and complaining of a sense of oppression upon both sides of the chest that had existed for a month, and was the more pronounced upon the right side.

At first there was some cough, unattended, however, with expectoration. There had been considerable loss of flesh during the preceding two months. There was a history of acute articular rheumatism a year before, complicated by endocarditis. The appetite was much impaired, and the digestion was enfeebled. The bowels were regular. There was inability to sleep at night, on account of the dyspnœa induced by the recumbent posture, with a sense of feverishness and sweating about the head. There was no œdema and no noteworthy derangement of micturition. The urine presented no abnormality. The menstrual period has twice been missed. The anæmia was profound. The family history was good.

On physical examination the chest was seen to be somewhat chicken-breasted. The cardiac impulse was violent and diffuse, extending beyond the line of the left nipple. The area of cardiac percussion-dullness was appreciably increased. The action of the heart was rapid. Over a large area in the precordium both a systolic and a diastolic murmur could be heard. These were transmitted in the course of the great vessels, and could also be heard to the left of the vertebral column in the dorsal region. There was a deficiency in the pulmonary resonance at the apex of the left lung, with some roughening of the respiratory murmur upon both sides.

The girl was instructed to go to bed, to place herself at absolute rest, and partake of a generous diet of easily assimilable character, the basis of which should be milk, eggs, and meat. Teaspoonful doses of the elixir of quinine, iron, and strychnine, to be taken thrice daily, well diluted after food, were prescribed.

In the course of a week we learned that the girl was improved in some respects, though the pain in the right side of the chest was still a source of annoyance. I now prescribed digitalis, giving two drachms of the infusion, with five minims of the tincture, thrice daily.

The next report brought word of decided improvement. After having continued the digitalis for two weeks, tincture of strophanthus, in ten-drop doses, was substituted, the administration likewise being continued for a period of about two weeks. With this alteration the treatment has thus been kept up for these three months and more, the girl always doing best, however, while under the influence of digitalis. She has

been able to be out of bed, has spent two weeks in the country, and, as her mother states, "is quite another girl."

This case presents several interesting considerations. The diagnosis was clear. There was aortic obstruction and incompetency, *with ruptured compensation*. The origin of the lesion was to be ascribed to the attack of acute rheumatism of a year before. The practical question that presented itself was: What is the best that we can do for the case? Before attempting to answer this question let me say a few words concerning the etiology of endocarditis.

I am inclined to believe that too much importance—perhaps I should say too exclusive an importance—is attached to the influence of rheumatism as a cause of endocarditis. I do not mean to imply that rheumatism is not a potent and a frequent cause of endocarditis; on the contrary, the etiologic factors upon which rheumatic polyarthritis depends often, very often indeed, also give rise to endocarditis; but we must not ignore the fact that many other conditions may likewise cause endocarditis. Accumulating experience points to the conclusion that any of the infectious diseases or any infectious condition—*e. g.*, measles, varicella, variola, scarlatina, enteric fever, influenza, gonorrhœa, syphilis, septicæmia—may be complicated by inflammation of the endocardium.

In each of these conditions, including acute rheumatism, it would appear that the endocardial lesion is but one manifestation of the action of a virus which is the ultimate etiologic element. For some of these a bacterial origin has been demonstrated; for others the demonstration is yet wanting. It is probable that in some instances inflammation results from the lodgment of micro-organisms upon and within the delicate lining membrane of the heart, while in others the inflammation depends upon the presence in the circulation of certain toxic substances generated by bacterial activity. This distinction between infection and intoxication I believe to be an important one. Therapeutically the corresponding difference is that between a germicide and an antidote.

What shall we say of the *prognosis*? We can never restore the integrity of the valvular apparatus, but we can hope to re-establish the balance of the circulation, and to this end we shall direct our treatment. The outcome of the case depends largely upon its management. This heart differs from the normal heart in that it has lost its reserve or latent capability, and perhaps some of its essential capability as well. If the demands placed upon it do not exceed its functional ability, it will serve its purpose well, but should this limit be transgressed the organ will give out and fail. At the same time the nutrition



of the heart and the general nutrition will demand consideration. With judicious management and in the absence of complicating conditions, I see no reason why this girl's life may not be prolonged for many years. It must, however, be borne in mind that she is less well able to withstand the effects of an attack of intercurrent disease, or to submit to the risks of pregnancy and childbirth than if her circulatory apparatus were intact.

Returning to the treatment of our case, what were the therapeutic indications? A failing left heart, beginning to dilate, with consequent pulmonary stasis. Mechanically and physiologically two alternatives offered—*i. e.*, either to stimulate the flagging power of the heart or to diminish its work. The choice was obvious. The demands upon the heart, as upon the whole system, were curtailed by rest in bed, with quiet, and the nutrition of the organ, as also of the whole body, was improved by the same measure and additionally by a generous assimilable diet. Having thus prepared the heart for an additional burden we were ready to use our cardiac stimulants.

In considering the therapeutic measures to be employed I have not spoken of the character or situation of the lesion. This omission is intended, for in our treatment we do not deal with the valvular defect, but with the condition of equilibrium, the *compensation*, as it is called. In your experience you will encounter cases of valvular disease that present no symptomatic evidence of the lesion, while in other cases you will be unable to discover auscultatory signs to explain the distressing and alarming symptoms due to heart failure from myocardial degeneration. Our object is to establish harmony between the action of the heart and the demands of the system, and our choice of measures or remedies is governed by the disparity between these that may exist. When a heart tonic that is not merely a heart-stimulant, but at once a stimulant and a nutritive agent, is needed, digitalis is the best we have at our command. As a tolerance to the drug may be established, it is well to alternate its use with that of some other heart-tonic; and next to digitalis strophanthus is perhaps the most reliable. In this case strophanthus disappointed, perhaps because the dose was not large enough, but in an out-patient it was deemed wise not to prescribe large doses.

The girl is now taking digitalis. After two weeks we shall tentatively give her *cereus grandiflorus*, of the fluid extract 10 minims, cautiously increasing the dose to 30 minims, thrice daily. In administering digitalis I give both tincture and infusion together, believing that I thus most nearly obtain all of the soluble active principles of the crude drug.—*Philadelphia Polyclinic*.

## CHRONIC GASTRITIS AND ITS TREATMENT.

By W. F. BATEMAN, M. D., Lodoga, Ind.

Chronic granular gastritis has a multiplicity of names: catarrh of the stomach, dyspepsia, indigestion, atony of the stomach, etc. In the French text books we find it most described as different forms of dyspepsia. Dyspepsia and indigestion are merely descriptive of a functional disturbance, but not of a distinct disease, and we should not consider each disturbance of digestion a separate disease.

*Pathology.*—Ewald says it is rare to find a perfectly healthy stomach after thirty-five or forty years of age. In his autopsies he has only seen two such, and they from persons killed instantly. Chronic inflammation of the mucosa is generally a sequel to repeated attacks of acute inflammation, generally known as indigestion.

The mucous membrane has a yellowish gray or slate color, with deeply injected areas of scarlet or brownish-red color, and is usually thickened and covered by a firmly adherent layer of mucus. The portion of the stomach mostly affected is the pyloric, but it may extend to the fundus and even the entire mucous membrane.

The submucous and muscularis may also be thickened, and the latter especially at the pylorus; the disease may cause hypertrophy with stenosis. In severe cases the mucous layer undergoes atrophy to a degree that completely destroys its function. Ewald mentions cases where there was a complete suppression of the secretion of the gastric juices.

Repeated attacks of acute gastritis is one of the most frequent causes of chronic gastritis. It may be the result of swallowing half masticated and partially insalivated morsels of food; this predisposes to fermentation and putrefaction of the stomach contents. Another cause, also, is carious teeth and inflammation of the gums. Then comes tobacco juice, alcoholic beverages and toxic substances and parasites. Some of the former may circulate in the blood and be excreted by the stomach, such as urea and some of the products of constipation.

Ewald says "chronic stomach catarrh is one of the best nourished diseases in the world, and indigestion is the remorse of a guilty stomach." Some of the predisposing causes are anæmia after dysentery, typhus and typhoid fevers, the acute exanthemata, pregnancy and uterine disease; also diabetes, gout, and chronic affections of the kidneys.

There are many stages between the simple and mucous forms; sharp distinction between the two is sometimes impossible. The initial stages are about the same in the different forms, namely, difficult digestion or chronic dyspepsia.

It is only after the development of a progressive atrophy of the gastric mucous membrane that the symptoms of rapid decline of the organism becomes manifest.

The patients usually complain of a dry, pasty or salty taste in the mouth. There is nothing pathognomic about the tongue; it is seldom clean, but usually coated at the base; the papillæ are reddened and swollen; the edges bear the impressions of the teeth. In the morning the coat is thicker than in the evening. The lips are dry and chapped. Belching is frequent. The gas has an offensive sour smell, with a rancid taste. Frequently regurgitation of fluid and food, with sour smell and taste, is present, imparting a burning, scratching sensation along the œsophagus. These symptoms at times result in severe cardialgia and gastralgia. Vomiting is of irregular occurrence; nausea and trismus usually precede it. The appetite may range from slight or moderate to excess; so the patients commit dietetic errors and cause fresh irritation. Soon after eating they feel oppressed and bloated, with a choking, vague sensation, which becomes a slight pain on pressure. They frequently complain of the food remaining long in the stomach, and often describe the vain efforts of the oppressed viscus to drive the food into the intestine. This condition finally results in weakness of the muscular walls of the stomach. As a result of this the carbohydrates ferment, and the albuminoids putrefy. These gases distend the wall of the stomach and the distention causes pain. Constipation results as a rule. The urine is scanty, deposits urates abundantly, and is at times alkaline.

Mentally the patients are stupid, and complained of loss of energy, with headache, and morose, irritable disposition. The pulse is small and weak, with frequent irregular action of the heart. The final stage of chronic catarrhal gastritis is atrophy of the mucous membrane. This process may be partial or complete. We observe a progressive loss of secretion until the digestive activity of the stomach is completely lost.

One case I treated was reduced 58 pounds in weight, but by proper diet and treatment she gained flesh and is still alive, living on spoon victuals, suffering frequent relapses.

Another case was reduced 50 pounds in weight, pulse 140, complete loss of strength; lay in the hammock most of the time, and for days would not eat a morsel. By proper diet and treatment this man now weighs 208 pounds, and does farm work. I think this case has stenosis of the pylorus caused by the gastritis, which has been progressing seven or eight years.

A third progressed to an unfavorable termination, and the autopsy proved a gastrectasis.

Austin Flint, twenty years ago, was the first to call attention to the relation between anæmia and atrophy of the gastric glands.

The diagnosis is beset by many difficulties. One of the first things to do is to differentiate the different stages and forms of the disease, viz.: simple acute gastritis, chronic mucous gastritis, and atrophy of the gastric glands.

The long duration of the disease is indicated by its name. In apparently cured cases the trouble is liable to exacerbations. The lightest deviation from a specific diet may cause a fresh attack. When it reaches the stage of atrophy, it is incurable. A large number of cases said to have died of old age, really perish from gastric atrophy. Besides the malnutrition at all times renders these patients more susceptible to a series of other poisons, such as tuberculosis and acute rheumatism.

The first point in treatment is to adopt a suitable diet; and here you will find "that what is one man's meat is another's poison." A physician can not pick out a diet for every dyspeptic, but with the aid of the patient's experience. Warn him to leave off what disagrees. There are a few rules that can be applied to every case, as to masticate the food slowly, and take good care of the mouth, keeping it clean.

I will now relate my experience with the case which I promised to refer to later. After finding him in the distressful condition given above, I asked him what he craved; he said ice cream. I had this made with cream in the milk, and nine eggs to the gallon. After complete lavage of the stomach with a tube, I gave alternate dishes of ice cream and junket, made with essence of pepsin, every three or four hours. I gave no medicine, except occasionally alterative doses of calomel. He has lived on ice cream for eighteen months, five quarts a day.

This brings us to the strictly medical treatment of gastritis. Electricity and strychnia are of the utmost value in the atonic condition. Hydrochloric acid is one of the best anti-ferments we have, and forms the acid albuminates essential for peptonization. Ewald says, "never give pepsin until you think that the peptic glands are destroyed."

Among the stimulants of the glandular secretion, bitters and carminatives are of value in certain cases. Purgatives are necessary in most cases, but we had better use mild laxatives, and as few times as possible, so as not to establish a habit.

The different mineral spring waters are very valuable in many of these cases in a constipated condition. Lavage is a valuable remedy in fermentation and decomposition of the stomach contents, where there is atony with a tendency to dilatation.—*Indiana Medical Journal.*



## INTUBATION IN LARYNGEAL STENOSIS CAUSED BY DIPHTHERIA.

By JOSEPH P. O'DWYER, M. D.

As a preface to this paper, I wish to call attention to my paper on the subject of "Intubation Contrasted with Tracheotomy," a full report of which can be found in the *American Lancet* of December, 1891.

Since publishing that paper several cases of laryngeal stenosis have come under my care, in all of which I have intubated; with what success the accompanying statistics show.

This evening it is my object to determine the value of intubation as a method of relieving the dyspnœa caused by laryngeal stenosis. In comparing the relative value of any two operations in this disease, it is not sufficient merely to state the statistical results obtained; one must take into consideration the age, duration, the presence or absence of one or more of the many complications usually attending such cases (*e. g.*, sepsis, pertussis, pneumonia, scarlatina, extension of the membrane into the tubes), likewise the patient's surroundings, the care, etc., which the patient is receiving—which in cases of this kind is an all-important factor.

When drawing up this paper it was my intention to lay before you a correct and veracious statement of the success or failure of cases treated by me by means of the intubation tube. For should I withhold any particle of the truth or suppress the report of any unsuccessful cases, and only place before your notice those which had been attended with success, I should be doing a grave injustice to the public, to intubation, and also to you gentlemen, by misrepresenting facts and thereby leading you to believe thoroughly in its efficacy as a radical means of relief in cases of this kind, as well as in all cases of dyspnœa from any cause whatsoever.

The cases which I intend calling to your notice, in all sixteen, were seen in consultation with other physicians, many of whom belong to this illustrious body. I have operated on sixteen cases of laryngeal stenosis caused by diphtheria, of which six, or  $37\frac{1}{2}$  per cent., recovered. Of these, eight were males. A fourth of these were under three years of age, and two were moribund before operated on. In fatal cases the average length of life after operation was two days and twelve hours. In successful cases the average length of time tube was in larynx was four days. In no case have I introduced the tube until dyspnœa was extreme, and in no case was membrane pushed down in sufficient quantity to produce fatal obstruction during the operation.

I have never refused to operate in a single case of advanced laryngeal obstruction, no matter how hopeless the case seemed.

In addition to the following cases given in detail, I have seen or have been consulted with regard to two cases of laryngeal diphtheria accompanied by grave dyspnœa, both of which recovered without operation.

If those physicians who are opposed to intubation and are in favor of tracheotomy, and who have handled the knife sufficiently to make their opinion of any value, will give us a complete report of their cases, it will be of the greatest benefit in comparing these operations, and would quickly relegate tracheotomy to its proper position as a radical means of relief in laryngeal dyspnœa.

I wish to call your attention to the fact that attached to the report of each case will be found the name of the physician by whose courtesy I was enabled to operate:

*Case I.*—Physician, Dr. W. J. Wilson. Male, æt. 3 years 6 months; suffering from scarlet fever one week; also had bronchitis and was quite croupy for two or three days previous to my seeing the case. Every effort was made to relieve the dyspnœa, which gradually grew worse. Upon examination I found a great deal of œdema of the glottis, which led me to give a guarded prognosis. I introduced the tube with some difficulty; the child only received partial relief, and wore the tube sixteen hours. Died from collapse.

*Case II.*—Physician, Dr. J. B. Kennedy. Female, æt. 6 years. This child had been suffering three or four days from croup, which was thought to be nothing but stridulous. The stenosis became so severe that intubation was suggested by attending physician. The family consented, and I intubated, with immediate relief. The child wore the tube four days. Extracted tube on evening of fourth day. Child made speedy recovery.

*Case III.*—Physician, Dr. P. C. Dulitz. Female, æt. 14 months. Child had been suffering from pharyngeal diphtheria for five days, and showed symptoms of laryngeal obstruction for two days. The stenosis was so grave that on introducing the tube the patient became easy and respiration became almost normal; but despite all efforts the child died two days following from extension of the membrane to the tubes. This case was almost hopeless from the first.

*Case IV.*—Physician, Dr. Bigg. Female, æt. 7 years. Suffering from increasing laryngeal dyspnœa for two days. This patient had a very high temperature; mucous râles could be plainly heard all over the chest. The girl was greatly re-

lieved by the tube, and did very well that night, but death resulted the following day from sepsis.

*Case V.*—Physician, Dr. W. J. Brand. Male, æt. 5 years. Suffering from pharyngeal diphtheria four days. Somewhat croupy from beginning of the attack. The characteristic symptoms of stenosis presented themselves in a marked degree. The child wore the tube for three and a half days, making an uninterrupted recovery.

*Case VI.*—Physician, Dr. J. B. Kennedy. Male, æt. 12 months. Laryngeal obstruction presented itself fourteen hours before intubation. Four of the other children were suffering from malignant diphtheria at the same time. Child wore tube one day; died in my absence from extension to tubes.

*Case VII.*—Physician, Dr. P. C. Dulitz. Female, æt. 7 years. Suffered two days from laryngeal obstruction. I intubated, but child did not appear to rally very much, though the breathing was improved to a very marked degree. Died the following day of sepsis. I might state the urine was loaded with albumen.

*Case VIII.*—Physician, Dr. John Lee. Male, æt. 2 years. Malignant diphtheria four days, gradually increasing obstruction. Intubated without any great relief. I was called next morning with Dr. Lee and found the child breathing very rapidly; pulse very feeble; temperature 104 deg. Apparently little or no obstruction in tube. I removed the tube, and the child collapsed and died in a short time.

*Case IX.*—Dr. J. P. O'Dwyer. My own case in consultation with Dr. Chapoton. Female, æt. 6 years and 6 months. Pharyngeal diphtheria six days; for three days gradually increasing laryngeal obstruction. I deferred intubation until stenosis was extreme, as I had ample opportunity to watch the child. They sent for me suddenly the following day, and as I entered the house the father said the child was dead. I seized a tube and placed it in the larynx with no resistance whatever; immediately the stenosis was relieved. Previous to my introducing the tube the stenosis was almost complete. Respiration returned. Child wore tube with great difficulty for seven days, and made a good recovery. Three others of the family were suffering at the same time from diphtheria.

*Case X.*—Physician, Dr. J. Campbell. Male, æt. 6 years. Laryngeal diphtheria two days. Stenosis marked for fourteen hours previous to intubation. The little fellow wore the tube nicely for one day, then coughed it out and made a speedy recovery, without further operative interference.

*Case XI.*—Physician, Dr. P. C. Dulitz. Male, æt. 5 years. Suffered one day from laryngeal obstruction, which

became so marked that the little fellow became unconscious. The history obtained from parents failed to show any preceding symptoms of diphtheria. Twelve hours before I saw him he was running around, and, although distressed, the symptoms did not alarm the parents. The little fellow regained consciousness and asked for a drink. I saw him the day following and gave a very favorable prognosis. I instructed the parents to keep the child very quiet, as he was disposed to running around. That same evening in his mother's absence the little fellow got out of bed and went to the table to help himself. No sooner had he reached the table than he fell back dead. The noise attracted the mother's attention. She was so stunned to find her boy dead that she said nothing of the manner of his death until applying for the certificate. I am certain that had the child remained quiet he would have made a speedy recovery, as everything was favorable toward it.

*Case XII.*—Physician, Dr. Aaron. Male,  $\text{\ae t. 5 years}$ . Had been suffering from pharyngeal diphtheria four days. Two days following the primary attack the doctor noticed that the disease had extended into the larynx. Tracheotomy was suggested, but the people refusing, intubation was performed. The boy wore the tube for three and a half days with little difficulty, and made a good recovery.

*Case XIII.*—Physician, Dr. W. J. Wilson. Male,  $\text{\ae t. 7 years}$ . The disease began in the larynx, and the diagnosis was made from general symptoms. The dyspnœa became very prominent, and the doctor did everything in his power to relieve it, but as the child grew worse he asked me to intubate that evening. I did so with little difficulty in the presence of Drs. Wilson and Jackman. The doctor reported the case the following morning as doing nicely, and I had good hopes of its recovery. Next day the child became worse, and died of sepsis in the evening.

*Case XIV.*—Physician, Dr. J. B. Kennedy. Female,  $\text{\ae t. 2 years 5 months}$ . There was nothing unusual in this case. The child wore the tube two and a half days and died of sepsis.

*Case XV.*—Physicians, Dr. J. P. O'Dwyer and Dr. McEachren. Male,  $\text{\ae t. 4 years}$ . This little patient was suffering from measles at the time he developed laryngeal diphtheria. He contracted bronchitis, thereby aggravating his case. I watched him closely for two days, when it became necessary to give him some relief other than could be obtained by the use of medicine. After intubation he made a very slow recovery. Having worn the tube four days, I removed it, and although



the dyspnœa had not entirely disappeared he managed to struggle through without the aid of another tube. This was one of those cases which had absolutely no cure and many complications, but still survived them all. His brother also suffered from laryngeal dyspnœa from same cause, and, although very tedious, did not require operation.

*Case XVI.*—Physician, Dr. W. J. Brand. Female, æt. 4 years 6 months. This patient was suffering from pharyngeal diphtheria with some croupiness for three days. The dyspnœa became so grave that intubation was performed, with the usual result. I had some little difficulty in placing the tube in the larynx, and as I did so I felt the epiglottis, which had become cartilaginous—always, I think, a fatal symptom. The child did nicely that night and the following day. The morning following I was summoned in great haste, and in the presence of Dr. W. J. Brand I removed the tube, which was perfectly clear, and still the dyspnœa grew worse. I inserted a new tube with no effect. The child died one hour later from collapse. This case is especially interesting, as one might naturally suppose that death was caused from pushing down the membrane below the tube. Tracheotomy was afterward suggested, but I am certain the result would have been the same, as I have seen it used in such cases several times.

These cases were all treated, with the exception of one or two, with the bichloride of mercury, tincture chloride of iron, and usual local remedies. The majority, however, received much smaller doses of bichloride than I would recommend. I am in the habit of giving  $\frac{1}{32}$  to  $\frac{1}{48}$  grain in an ounce of water (which is very essential) every hour.

In not one case did I experience any difficulty in feeding, nor have I had a single death on the table, with one exception—the case with Dr. Lee, which was due to collapse upon removal of the tube, and which would have died in half an hour at the longest had the tube been left in.

If every member of the Academy, or I may say every brother physician, had the opportunity of knowing the opinion of those who have given this a fair trial, I feel confident that this operation would be more generally practised. I therefore trust that members of this worthy body will not think that I am imposing on their kindness. Let them give it a thorough study, and they will find that there are many others in our profession who advocate this method in preference to all others as a means of radical relief in all forms of laryngeal stenosis.—*American Lancet.*

## LARYNGITIS HIEMALIS.

By J. C. MULHALL, M. D., St. Louis.

During the last twelve years I have written notes in my case books of nine cases of an affection of the larynx in which there existed such a uniformity of signs and symptoms peculiar alone to this disease, and as yet, to my knowledge, unwritten about, that I have thought it worthy of the special title under which I beg leave to present it for your consideration.

It is simply a variety of subacute catarrhal laryngitis, in which the secretions are, *ab initio*, adhesive crusts, mechanically producing dysphonia, more often complete aphonia, and occurring *alone during winter*. I have adopted the term "winter" laryngitis for the following reasons: I have never seen the disease except in winter. In several of these self-same patients, who have had attacks of laryngitis in summer, the crust formation has not occurred, aphonia was absent—in a word, it pursued the ordinary course of a non-febrile, subacute laryngitis. Two of my patients, completely aphonic, having been sent to the warm, moist air of Florida, lost all traces of the affection, one within forty-eight hours and one within a week after arrival in that State. One of them being compelled to return to St. Louis before our cold weather had ceased was, on the second day of her return, seized with her former laryngeal symptoms. I have had several such experiences as the following: The patient enters the consulting room completely aphonic. With a warm salt water laryngeal spray, all crusts having been detached and coughed out, the voice has at once returned more or less pure. On the following day the patient has returned with the intelligence that within two hours after leaving the office the voice had again become lost. On the appearance of several successive days of warm weather in the winter these cases have rapidly improved. It therefore seems to me that continued cold weather is the important factor—the exciting cause.

The predisposing factor—that which causes the larynx to yield this perverted secretion—is as much a mystery to me as the foul perspiration of certain individuals otherwise healthy. I have found it associated with no particular diathesis, age, occupation, unhygienic surrounding or *personnel*, or faulty condition of other bodily organ, including the nose.

The crusts adhere more closely to the true than the false cords, cling with great tenacity to the inter-arytænoid fold, and often found on the under surface of the true cords. In St. Louis they are often black, being thus discolored by the soot-laden atmosphere. The evidences of inflammation in the larynx are

usually quite slight, and I have often been surprised, after having cleansed the larynx, to see the true cords white and without suspicion of erosion or thickening.

In one patient, however—a saloon keeper, a slave to alcoholic and other excesses, utterly careless as to the quality of his voice, and who would only apply for treatment when he had been quite aphonic for a week or two—a general laryngeal thickening has taken place and he is dysphonic even in summer, though no crusts are ever present in this season. Each winter, however, with the first appearance of cold weather, the crust formation occurs. The aphonia and dysphonia are mechanical, the crusts preventing cord vibration and approximation, and these symptoms alone cause the sufferer to seek relief. The tickling cough is but slight, and the patient soon learns the futility of attempting to clear the throat by forced coughing, rasping and hawking, and soon ceases these efforts.

The disease may be acute and last but two or three weeks, but may readily, without appropriate treatment, last the entire winter. It may occur but once in a lifetime of a patient, or may be a relapsing disease. It may occur with the first fall of the thermometer to 30 deg. F., even without the precipitating factor, “catching cold.” In two such cases I have not been able to satisfy myself with the laryngoscope that any inflammation whatever existed.

One not familiar with this clinical picture—for it is rare—might suggest that this is but a variety of the well-known “laryngitis sicca.” This latter is, however, nearly always associated with pharyngitis sicca or rhinitis atrophica, being *sequential* to these conditions. It is essentially a chronic disease, the secretions often fetid, and is merely modified by climatic conditions. In the cases I have described there is associated no other bodily ailment.

The milder often readily yield completely to treatment. I have found hygiene, both in the cure and prophylaxis, of most importance, such as the wearing of light woollen undergarments, thick-soled shoes, without rubbers; the avoidance of overheated apartments, especially furnace-heated houses; the sleeping in a cold room, cold water sponging, silence in the open air, avoidance of stimulants, careful dieting, etc.

Locally, after having first cleansed the larynx, I have found a cold spray of vaseline and eucalyptol, ten minims to the ounce, two drachms to be used at a sitting, of most service. The cold, wet throat pack at night and the internal use of muriate of pilocarpine, combined with muriate of ammonia, complete what I have found to be of service.—*New York Medical Journal*.

## A CASE OF ABSCESS OF THE SPLEEN.

By WILLARD C. HOWE, M. D., of Hawarden, Iowa.

The occurrence of abscess of the spleen would appear to be of extreme rarity, if the literature at my command is to be taken as a criterion. In the leading surgical works, very little is said regarding this particular pathologic condition, and a careful search of the best journals fails to reveal the records of but few cases. Because of its obscure history and progress, and the difficulty of an early accurate diagnosis, it is very unfortunate, if it is at all common, that so few cases have been reported for the benefit of the profession. A painstaking examination of the books and periodicals at my disposal discloses reports of but nine cases of abscess, one of purulent cyst, and one of perisplenic abscess.

William H. Flint mentions one case of supposed abscess of the spleen in which there was free expectoration of pus and final recovery. J. M. Flippin reports one case in which he removed nine pints of pus by free opening. Recovery followed. Hodenpyl presented to the New York Pathological Society a specimen of abscess of the spleen. Death was due to chronic nephritis. Joseph Levi reports two cases. Mena records a case in a boy sixteen years of age in which the abscess was consequent upon traumatism. There was vomiting of pus and also its passage from the bowels. Recovery ensued in eighteen weeks. M. Chondhoory, of India, observed among thirty thousand cases of malaria only three cases of abscess of the spleen. One freely opened and was treated by drainage, boric lint and iodoform; and recovery took place. Porge records a case of purulent cyst of the spleen, and Councilman presented to the Johns Hopkins Hospital Medical Society a case of perisplenic abscess.

The following case was one of extreme interest to me, and, because of certain points detailed in the history, would seem quite rare.

On August 7, 1892, I was called to treat C. C., an American, single, twenty-one years of age, by occupation a well-digger. For some time he had been working unusually hard, his ambition exceeding his strength. Up to within three weeks his health had been good. Except for the usual diseases of childhood he had never known a sick day.

Two weeks before he had consulted a physician regarding a pain in his left side. A "shot-gun prescription" was given, but as this did no good the man went to another physician, who, without making the least examination, asking any questions, except as to the location of the pain, prescribed a chloroform



liniment for external application. After three or four days' use of this, with no improvement, the man sent for me.

I found him lying upon his right side, with the left limb slightly flexed, and complaining of a dull, heavy pain in the left hypochondriac region, with slight tenderness on pressure. His temperature was 102 deg.; pulse, 120; respiration, 18; the bowels were regular and the kidneys acting normally. Careful examination disclosed the following condition: A slight bulging over the normal location of the spleen; the ninth and tenth intercostal spaces were obliterated; the area of splenic percussion-dullness was increased in a direction downward and forward for about two inches below the border of the ribs.

Palpation revealed a tumor arising from the left hypochondrium. It was superficial; its edges were rather blunt, and its anterior border was notched. With one hand behind and the other in front it was found to be mobile and tender on pressure. Deep inspiration was painful and occasioned a downward movement of the enlarged mass. Upon auscultation a distinct friction-sound was heard. The only sharp pain complained of was upon deep inspiration or when the tumor was moved during the examination or upon a change of position of the body. The erect posture caused the tumor to drop somewhat downward. Taking these points into consideration, a diagnosis of splenitis and perisplenitis was made. The only conditions likely to simulate this and obscure the diagnosis would be fecal accumulation in the intestine (splenic flexure of the colon) and a floating or enlarged kidney. Fecal masses in the intestine could, for the following reasons, be excluded: The percussion-dullness did not correspond with the course of the colon; pressure left no depression, the enlargement being elastic, whereas fecal accumulations are not so. Finally, the bowels had been regular in action and the passages normal in appearance.

Tumors of the kidney are more fixed; they do not follow the respiratory movements, and are not displaced by changes in body-posture.

As ice was not to be obtained, I ordered cold cloths applied and changed frequently night and day. Quinine in four-grain doses three times a day was given, and morphine sulphate, gr.  $\frac{1}{8}$  in pills, was left to be taken from every two to four hours, as necessary, to quiet pain. The spleen continued to enlarge until it filled nearly half the abdominal cavity. The temperature ranged from 100 to 103 degs.; the pulse from 100 to 120.

The pain now become more severe, the countenance assumed an anxious expression, and there was rapid loss of flesh.

No fluctuation was to be obtained, but thinking an abscess was forming, I ordered hot poultices applied continuously. Small boils the size of a pea began to form in profusion upon the neck, face, back and anterior aspect of the arms. The lymphatics of the groin and axilla became enlarged and tender. On October 6, a consultation was held with Drs. J. H. Brower and O. W. Phelps. Dr. Brower agreed with me as to the location and character of the trouble, but Dr. Phelps considered it a plain case of abscess of the kidney.

The urine being normal in quantity and appearance, and showing no sign of pus or albumen upon several very careful chemical and microscopic examinations, together with the fact that we had a tumor arising from the left hypochondrium that was superficial, movable, with blunt edges and a notched anterior border, confirmed our diagnosis at least as to the location of the diseased process. The quinine was continued in two-grain doses during the entire time, and ferrum redactum in three-grain doses was given three times a day.

The diet consisted of milk and beef extract. No stimulants were used. On October 11 Dr. Brower again saw the case with me, and we decided to make a free opening into the spleen. This was accordingly done between the axillary lines and just below the border of the tenth rib. About two quarts of thick pus were evacuated, together with small particles of broken-down splenic tissue of a mottled-gray appearance; the cavity was washed out with a warm boric-acid solution, a drainage tube was introduced, and the whole was covered with iodoform gauze and proper bandages. The temperature declined to normal, the pulse to 90, and the pain was materially lessened, but not entirely removed. The cavity was washed out daily and the drainage tube finally withdrawn October 18 and the wound closed. The spleen was very perceptibly smaller. On October 22 the temperature again began to rise, the pulse to run up and the pain to return, and by the 29th all of the symptoms had returned with the same intensity as they had presented before the abscess was opened. Thinking the old cavity was refilling it was reopened, with negative results.

The bowels moved naturally on the evening of the 28th, but caused great pain, and restlessness continued during the night. The morning of the 29th the man felt a sudden desire to go to stool. A large quantity of clear pus streaked with blood was passed. In the next four hours the bowels moved eleven times, the character of the discharge being the same; the movements then ceased, and from that day on were quite normal.

On November 5, the man was seized with a hard coughing spell and expectorated pus freely. This continued for about four weeks, but gradually ceased; strength returned, and on January 15 he was discharged cured. He has worked hard all summer and is now in good health. The case was also seen by Drs. R. D. Clark and A. DeBey, who agreed with us as to diagnosis and treatment, the latter being tonic and supporting from beginning to end, with free opening so soon as pus was known to exist. In this case the cause was a bruise. No septic trouble of serious moment developed, and recovery was a very gratifying surprise, as a fatal termination had been predicted.—*Medical News*.

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RHYTHMIC TRACTIONS OF THE TONGUE IN ASPHYXIA FROM CHARCOAL FUMES, AND REPORT OF A CASE OF ASPHYXIA NEONATORUM REVIVIFIED BY LABORDE'S METHOD.

By ALBERT S. ASHMEAD, M. D., of New York.

There seems to have recently and very seriously come into vogue a system of revivification, proposed by Dr. Laborde, of Paris, which is called by its author *the method of rhythmic tractions of the tongue*. As early as 1874 rhythmic tractions of the tongue were performed at Tokio, for the resuscitation of persons asphyxiated by carbon. This was the method as I have seen it employed, and have employed it myself at the Tokio hospital.

The patient having been placed upon the operating-table, brandy, largely diluted with hot water, was injected into the rectum, as much as it would receive. The Sylvester method of artificial respiration was employed, and modified as follows: At each elevation of the arms above the head the tongue was drawn forward by an assistant, and rapid passes with paper fans, soaked in water and aqua ammoniæ, were made over the mouth, to get into the lungs as much vapor of ammonia as possible. The tractions were from eighteen to twenty the minute. In a very short time, in the successful cases, the return of the capillary circulation was noticed first in the toes and then to creep up the lower extremities.

The first case which I attended was in a Japanese child, three years old. It had been poisoned in the beri-beri season by the charcoal fumes of the *hibatchi*, the little Japanese stove. Carbonic poison is frequent in the summer months, owing to the necessity of keeping the sliding doors closed in the daytime on account of the wet weather. With us this kind of accident occurs more usually at night; but the Japanese stoves are

always cold at night, because the people can not then attend to the necessary ventilation.

It is therefore to the Japanese that the honor of originating the method of resuscitation would at first seem to belong. There is even in the use of ammonia a scientific point very creditable to Japan. Ammonia furthers the separation of carbon poison from hemoglobin, and carbon greedily absorbs 90 per cent. of ammoniacal gases.

But it ought, in fairness to Dr. Laborde, to be added that, although his discovery would seem, by what I have said, to have been anticipated by the Japanese, it is really not so. Their method, based on another idea and aiming at another immediate action, is really another method. The Japanese doctor means to get ammonia into the lungs, and, with that object in view, he draws forward the tongue in order to clear the passage. It is evident by what will be said and quoted that the object of Dr. Laborde's method is to incite respiratory movements.

Laborde's method of rhythmic traction, as used by Dr. Ettore, of Rimini, Italy, in the case of stillbirth following uterine inertia and premature detachment of the placenta, the child having still hardly perceptible cardiac pulsations was as follows (he had failed in the attempt of catheterism as advised by Schroeder, and in the application of the methods of Schultze and Pacini):

“ Having placed the new-born in a half-sitting position on the border of the bed, and having him held in that position by an assistant, I opened the buccal cavity, and, taking the tongue between the thumb and index finger of the right hand, I began to perform on it tractions, at short and regular intervals, intensifying them gradually; and what was not my amazement and my delight when, after the time necessitated by about twenty tractions, the little thorax heaved, while at the same time the bambina uttered a faint squalling. Encouraged by this success, I continued the tractions and sousing simultaneously the little body with very cold water—a cutaneous stimulation which, as I have said, had been ineffective in the first instance—I obtained after a short while a regular breathing, complete, with a wailing now quite vigorous.”

Here is Dr. Roux' (of *L'Orient*, France) report of the use of the same method in another case: “ When I came, the head was at the superior strait with prolapse of the cord. On auscultation the stethoscope indicated no heart-beat. The Tarnier forceps was promptly applied. The child did not breathe, the heart-beats were hardly perceptible to the hand, and very rare. The tongue-tractions produced a hiccough at



rapidly decreasing intervals, followed by regular breathing. The first crying came after forty minutes."

The purpose of all attempts at resuscitation in case of any asphyxia is to arterialize the blood quickly. This can only be done by introducing oxygen and eliminating carbonic acid. The tractions open the aerial channels, and this is all that the Japanese method aims at producing. Laborde's method has for its object to call into existence respiratory movements.

The ammoniacal fanning is, however, an additional stimulant to respiratory movement—only its principal object is to introduce a substance that will antagonize carbon.

The application of Dr. Laborde's method to the case of neonati shows most strikingly the difference of the principle on which it and the Japanese methods are founded. For in the case of the new-born there is no poisoning gas to be overcome, except what would be naturally developed in the organism, the object of this treatment being simply to establish respirations.

Two nights ago I myself made use of Laborde's method, with a modification borrowed from Sylvester's method, in conjunction with the Japanese fanning. In the child of a unipara, stillborn, after protracted labor, with a posterior position, and the application of forceps, thirty or forty tractions were followed by the first gasp, and gradual resuscitation followed. Household ammonia and water were used for the fanning. Terrebinthinate preparations may be substituted for ammonia. Turpentine vapor is an oxidizing agent in the same degree as ammonia.—*Medical News*.

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## GYNECOLOGY AND OBSTETRICS.

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### THE FIRST AMERICAN SYMPHYSEOTOMY.

By ROBERT P. HARRIS, M. D., of Philadelphia.

Until late in October last we were under the impression that the first symphyseotomy on this side of the Atlantic was performed by Professor Charles Jewett, of Brooklyn, on September 30, 1892, but it was then discovered that the credit belonged to Dr. William Thomas Coggin, now of Athens, Ga., who operated in Freedman, Northeast Alabama, on March 12, 1892, more than six months before, with entire success; his residence at that time being in Keener, in the same mining region. Learning of Dr. Coggin's case at the time indicated, I opened a correspondence with him at once; have had ten letters from him since November 1, 1893; have secured a report

of his operation for the *American Journal of Obstetrics*, for which it is now in press; and am here prepared to do him credit for the initial operation in this hemisphere. I should feel inclined to censure him for withholding his case from the profession for so long a period, but for the fact, shown in his first letter to me (November 2, 1893), that he was under an impression that as many as five operations had antedated his in this country. Had he known, as he does now, that he was the pioneer operator, we should, no doubt, have had an early report, and he would have been of influence in introducing the scheme to the favorable acceptance of American obstetricians.

The record of Dr. Coggin's case shows that Drs. Pinard and Tarnier, of Paris, had nothing whatever to do with inducing him to perform the operation, thirty-six days after the initial trial of the former, as he had not heard of Pinard's case, or of their advocacy of the method. He was in Heidelberg in 1890, where he heard, from an Italian physician, an account of the remarkable successes under the operation in Naples, and received one of Professor Morisani's papers on the subject. He then decided to prefer symphyseotomy to craniotomy, whenever a case should come under his care in which one or the other should be presented as the alternative; and it was thus that he became the second to perform the operation after its exit from Italy. Had he been in a large city, he might have met with a proper subject much sooner, and have antedated Professor Pinard in his work, as he had in his acceptance of the applicability of the method. Dr. Coggin was a graduate in medicine of eight years' standing when he went to Germany, and prepared by experience to value a plan of obstetrics that opened to him a way of avoiding the objectionable one of craniotomy.

It is well known that no one in Europe, except in Italy, performed a symphyseotomy from 1865 to 1892, although from 1886 to 1892 there was enough in the measure of success attained to warrant its introduction into other countries. A mortality of  $5\frac{1}{2}$  per cent., we should suppose, would have secured imitators at a much earlier period, but for the fact that the Italians made but little boast of their work, and appeared to be indifferent upon the question of breaking up the old and deep-seated prejudice against the operation. Although aseptic and antiseptic measures had effected a revolution in results, it was not until a long record of successful cases had been collectively reported that the opposition of a century was made to give way. Having been in correspondence with the active advocates of symphyseotomy since the year 1882, I can understand the effect of the revelation of results that was made to

certain Parisian obstetrical writers and observers, in Naples and Paris, during the winter of 1891-92. By that time there was such an array of facts in favor of the operation that it was only requisite to make them known, to excite attention; for up to January 1, 1892, there had been in the preceding seven years thirty-seven Italian operations, with two women and three children lost. The cases were in order Nos. 11 and 24; the first of which had been in labor ninety-six hours, and the second, several days; case 11 died of septicæmia and case 24 of peritonitis.

Dr. Coggin operated upon the wife of a miner, a tall and apparently well-made primipara, 23 years old, and five feet and seven inches high, who had been fifteen and a half hours in labor when he was called in. He tried to deliver by the forceps, but found the pelvis too much contracted to admit the passage of the instrument, being of the *justo-minor* type, and computed to be one-third smaller than the average. He opened the symphysis after sixteen hours' labor; applied the forceps; and in delivering the fœtus, which proved to be a male of eleven and three-quarters pounds weight, noted that the pubic bones became separated two and three-quarters inches. There was no injury produced by the extraction of the child, either to the sacro-iliac synchondrosis or to the soft parts.

Under a proper restraining apparatus the pubes readily united: there was no lameness, and the boy did well, as his unusually large size now indicates. There have now been thirty-five operations in the United States, and this woman was among the earliest to be operated upon, and bore the heaviest child but one of the thirty-five, the highest in weight being one of twelve pounds. Of the children, twenty-four were males and eleven females, and the average weight of thirty-three of them was eight pounds. This average is the best possible indication that, in our country at least, the minimum conjugate should be fixed for fœtal safety at two and three-quarters inches, or seventy millimetres.

As promptness in action is a very important element of success in symphyseotomy, we are surprised that there have been only four women lost out of the thirty-five cases, when we consider the fact that short labors have been the exception. As we have secured a record in hours of the duration of labor in the thirty-five cases, we are enabled to present the following analysis: Labor induced in 2 cases; labor before operation, of 6 hours or less, 1; 7 to 12 hours, 5; 13 to 24 hours, 15; 25 to 36 hours, 2; 37 to 50 hours, 6; 51 to 62 hours, 1; 63 to 76 hours, 2; and 89 hours, 1. The four fatal cases were in labor

respectively 16, 20, 25 and 72 hours. Of the last 19 cases 1 woman and 5 children were lost.

It is of interest to note the order and date of introduction of the operation into the several countries since its exit from Italy.

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#### THE TREATMENT OF UTERINE FIBROIDS.

Dr. Augustin H. Goelet, in a paper read before the New York County Medical Association (*American Medico-Surgical Bulletin*, January 1, 1894), says the important question which arises in dealing with these growths is when interference is demanded and what treatment is indicated. A careful review of the literature of the subject and the opinions of those who are entitled to be regarded as speaking authoritatively leads to the conclusion that the majority do not regard the removal of these tumors indicated unless they give rise to sufficient inconvenience to warrant the risk of the operation and the mutilation which it involves: that the mortality attending their removal is still too great, even in the hands of expert operators, to warrant its being lightly undertaken. If, then, it is possible to relieve the symptoms caused by these growths, the actual necessity for operative interference is narrowed down to a very small field.

The writer does not agree with certain ultra-gynecologists that these tumors should all be removed when they are small and cause no inconvenience, but he strongly urges that they should be submitted to treatment in this stage, because treatment yields the best results when the tumor is small and of recent growth. The indication for the different methods usually employed are carefully reviewed: electricity, curettement, hysterectomy, and the removal of the appendages.

Of electricity he says that frequently a symptomatic cure is all that may be anticipated. The results that may be obtained by this method are classified as follows:

1. Cure of coexisting endometritis.
2. Loosening of adhesions between contiguous peritoneal surfaces.
3. Relief of pain and pressure symptoms.
4. Control of hæmorrhage.
5. Arrest and some retrogression of the growth.

The writer takes a bold stand in favor of vaginal puncture, believing it to be perfectly safe if properly done and strict asepsis is observed; that is, if as much care is taken with this as with other grave surgical procedures. He believes that more success would have followed the use of this agent if puncture had not been abandoned as a hazardous measure. He believes, likewise, that it is important to discriminate in the



choice of the pole to be employed against growths of different structure, just as important, in fact, as in dealing with such growths as warts, moles and *nævi* upon the external surface of the body. That is, when the structure is hard and fibrous the negative pole should be selected, and that when it is soft or myomatous the positive.

The writer lays stress upon the fact that both subperitoneal and submucous fibroids when pedunculated are not amenable to treatment by this agent. He positively declares that though assertions to the contrary have been made in some quarters, the proper use of electricity in these cases does not complicate subsequent operation for the removal of the tumor; but on the contrary, its use facilitates the removal of adhesions and produces a marked improvement in the general condition of the patient. In fact, he often employs it for improving the local condition and for building up the health of the patient preparatory to an operation. It has been asserted that the symptoms return after discontinuing the treatment, but the writer believes that when this occurs it is either due to a mistaken diagnosis or a faulty technique which may be unavoidable.

Curettement, he thinks, is useful as a preliminary measure, but it does not yield a permanent result. In support of this opinion, attention is directed to the fact that the mucous membrane removed by the curette is rapidly reproduced and the same causes for the hæmorrhage which previously existed still remain.

For the control of hæmorrhage when both these measures fail, he advocates ligation of the uterine arteries *per vaginam*, as suggested by Martin of Chicago. He expresses no confidence in ergot alone in these cases, but regards it as a useful auxiliary in the treatment of certain submucous and soft interstitial myomata when it is desirable to excite uterine contraction.

Goelet believes that the principal indication for hysterectomy is to be found in large subperitoneal and very large and hard interstitial growths which yield little, if at all, to any form of treatment. In these cases, even if the symptoms are relieved, their size is usually a source of so much inconvenience as to warrant the risk of their removal. This operation would also be indicated where treatment fails to permanently control the symptoms, when the tumor is situated unfavorably for treatment and when complicated by disease of the appendages.

Removal of the appendages for the purpose of inducing an artificial menopause which may exert a favorable influence upon the tumor is not regarded favorably. In his experience, as well as that of others, it is productive of very little good and he strongly urges that when the abdomen has been opened you should not stop short of removal of the whole tumor unless it is impossible to separate it from its attachments.

## MORTUARY REPORT OF NEW ORLEANS.

FOR JANUARY, 1894.

CAUSE.	White .....	Colored...	Male.....	Female....	Adults ...	Children.	Total .....
Fever, Yellow .....							6
“ Malarial (unclassified)....	4	2	3	3	6		
“ Intermittent .....					2	3	5
“ Remittent .....	4	1	5		3	2	5
“ Congestive .....	2	3	5		4		4
“ Typho .....	4		1	3	5		5
“ Typhoid or Enteric.....	3	2	5	2	2		2
“ Puerperal .....	2						
Influenza.....	10	12	10	12	22		22
Scarlatina .....		1	1			1	1
Small Pox.....		1	1		1		1
Measles .....							
Diphtheria .....	10	3	6	7	3	10	13
Meningitis .....	5	2	5	2	2	5	7
Pneumonia.....	21	32	35	18	36	17	53
Bronchitis .....	11	5	7	9	5	11	16
Consumption .....	50	37	52	35	87		87
Cancer .....	11	4	4	11	15		15
Congestion of Brain.....	4	1	4	1	3	2	5
Bright's Disease (Nephritis) ....	17	8	10	15	25		25
Diarrhœa (Enteritis) .....	14	7	16	5	14	7	21
Cholera Infantum .....	1	2	2	1		3	3
Dysentery.....	12	5	13	4	15	2	17
Debility, General .....	6	2	5	3	8		8
“ Senile .....	18	12	13	17	30		30
“ Infantile.....	2	2	2	2		4	4
All other causes .....	180	87	143	124	191	76	267
TOTAL .....	391	231	348	274	479	143	622

Still-born Children—White, 35; colored, 19; total, 54.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 25.43; colored, 39.88; total, 29.37.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector.

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### BUBOES.

By DR. T. O. SUMMERS, A. M., M. D., F. S. Soc. Lond., WAUKESHA, WIS.

It is a remarkable fact that those affections which in ordinary practice give the most trouble to the physician seem to be slurred over by our authorities in such an unsatisfactory manner that the seeker after knowledge often lays them down with disappointment. The subject of this paper is one of them. Who is there who has been in the practice of medicine for a year that has not been worried by these inguinal swellings, often obscure in their origin, and always difficult of treatment? While I may not be able to furnish anything new in the pathology of buboes, I shall venture to offer some practical hints for treatment which may be appreciated by those who look in vain for them in our surgical works. I shall offer no apology for simplicity, and shall treat the subject as though I were addressing those who have had no experience whatever in the treatment of such cases.

The word Bubo, from the Greek, is applied to any inflammation of a gland or glands in the groin attended with swelling. It is called by the negroes of the South, and, for that matter, by a good many white persons, too, "*blue ball*," as they think the name given to it derived from the bluish appearance which it generally assumes.

The causes of bubo are very numerous, although for a long time they were believed to be always of venereal origin, and even to this day there are some who still hold to that idea. They may occur from an ordinary strain or blow; from an injury to parts remote by absorption of the products of inflammation—an ingrowing toenail, for instance, may be the exciting cause of a swelling of the glands in the groin, just as an injury to the hand may produce glandular swelling in the axilla. They may also occur from a general constitutional debility, being too weak to carry off the products of absorption—the idiopathic bubo. A severe cold may also develop it. Lastly, as every one knows, a bubo is a common concomitant of gonorrhœa when the discharge from the urethra is suddenly checked, and by sympathy from a chancre or chancroid upon the penis. They are nearly always attended with intense pain, incapacitating the patient for attending to his business and giving no end of annoyance to the physician on account of the difficulty of reaching the parts affected, by remedial measures.

The inguinal glands are deeply situated, surrounded by meshes of alveolar tissue, in which pus easily becomes pocketed, offering thus great obstruction to absorption or drainage, even when free incision is made, and nearly always leaving an open sinus which is long in healing and exceedingly troublesome to the patient.

As soon as a case of glandular enlargement is presented to me, I immediately insist upon absolute rest, administer 10 grains of calomel and 15 grains of Dover's powder, with a teaspoonful of bicarbonate of soda dissolved in a glass of water. I then order a basin of water with a large piece of ice in it to be kept by the side of the bed. In this are laid muslin cloths which are saturated with the following lotion:

R	Liq. plumbi acetatis.....	℥ij.
	Tinct. opii .....	℥j.
	Tinct. hamamelis.....	℥iij.
M. S.	—Shake well and apply on cold muslin cloths.	

These applications are to be constantly kept up through the day, not allowing the cloths to remain after they have become warm; even the lotion should be kept in the ice basin. Before the cloths are applied the parts should be thoroughly washed with antiseptic water, bichloride of mercury tablets



being the most convenient mode of preparation. At night the whole groin should be well covered with the following ointment:

℞ Cerati plumbi subacitatis (Goulard's Cerate).  
 Ung. belladonnæ aa ..... ʒj  
 M. S.—Apply locally with gentle friction.

It will be observed at once that this is nothing more than an attempt to prevent suppuration. Poultices, counter irritants, *et id omne genus*, all encourage it, thus forcing an incision which, as has been stated, nearly always is followed by a long, lingering sinus. Gentle and continuous compression is always beneficial as an adjuvant to this treatment.

If this should fail to abort suppuration and the swelling becomes circumscribed, pointed and extremely sensitive to the slightest touch, even if pus can not be positively determined by palpation, then the treatment should be changed at once. Little strips of cantharidal plaster should be applied in lines parallel to the chain of glands and over these a hot poultice of flax seed meal on which laudanum has been freely poured should be laid and renewed as soon as cooled. This will hasten the pointing of the abscess, which should then be freely opened and one of Neuber's decalcified drainage tubes held in the wound by plaster, always taking care to keep the parts well washed with the antiseptic water. Slight compression should be kept up on the surrounding parts, close up to the edges of the wound. In most instances the abortive method succeeds admirably, but when it fails the surgeon must be prompt in changing his treatment to the encouragement of pus just as soon as he finds that it has begun to form. This often taxes to the utmost his diagnostic powers on account of the cellular character of tissue with which he has to deal.

Of course, if the bubo is of specific origin the usual specific remedies should supplement the treatment above given, and in cases of debility quinine and the elixir of the three chlorides (R. & H.) should be freely used.

## ISCHIO-RECTAL ABSCESS.

By DR. T. E. SCHUMPERT, Superintendent of Shreveport Charity Hospital,  
Shreveport, La.

I shall not attempt to bring forward any surgical or therapeutic novelties; every step of the treatment which I am about to rehearse was trodden long ago. If the interchange of ideas which the introduction of this subject may elicit shall result in any or all of us being better prepared to meet these emergencies, the object of this paper will have been obtained.

The point which I hope to make or emphasize is the importance of constitutional treatment in many surgical cases, the case which I am now about to cite being only a fair example of many that I have had.

Mr. L. aged 37, laborer, with a hereditary tuberculous history, an acquired syphilitic history, and also that of traumatism about the anus, came under my observation at the hospital on October 6, with what on a casual observation I took to be a fistulo in ano. I began immediately to prepare him for an operation. He stated that his mother died of consumption and that thirteen out of fourteen of his uncle's children on his father's side died of the same disease. Yet there is no pulmonary tuberculosis in Mr. L. yet manifest, but a very characteristic syphilitic papular eruption uniformly distributed over his body.

He also stated that about four years since, while sitting on a car brake, in a sudden lateral motion the nut in centre of same bruised his perineum and gave him considerable pain and trouble for a month or more. After he had been placed under the anæsthetic and ready for the operation I found upon closer examination not a fistula, but on the right of and about one inch from his anus an antero-posterior slit-like ulcerated surface about three inches long, and on introducing my probe, which was seven inches long, found that I could easily send it out of sight. But with my finger and the aid of the probe I very well mapped out this vast cavity, which I found to be cone-shaped, with the apex upward and to the left of the rectum. From this opening this cavity took a tortuous course over the levator ani and external sphincter down to the integument of the opposite side.

This abscess he stated ruptured about eleven months ago with a most fetid stench and has been discharging ever since. With a large sized uterine curette I gave this cavity a thorough curettement and denuded the edges of the opening; made a counter opening on the left of the rectum, the most direct outlet. Then, after a thorough irrigation with a strong bichloride of mercury solution, introduced a drainage tube and sutured the former opening; placed him on anti-syphilitic treatment; hypodermic injections, one-fourth grain bichloride mercury every other day, preceded by a hypodermic of cocaine in the exact site of the bichloride injection—the cocaine being intended to relieve the intense almost intolerable burning of the bichloride; and on the second of November dismissed him cured.

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#### PARACENTESIS EXTRAORDINARY.

By J. F. McKNIGHT, M. D., Walnut Hill, Arkansas.

A few months after I attended my first course of lectures I was called to attend Mrs. A. Still (col.) while suffering with the worst case of ascites I ever saw. I have since practised medicine seven years and visited the wards of the Charity Hospital two winters. I decided to tap her, and adopted the following simple plan:

I made an abdominal bandage of cloth so that it could be easily tightened; I made a puncture about two inches below the umbilicus (in the median line) with a small lancet and introduced an elastic male catheter and drew off the fluid.

I then placed a piece of adhesive plaster over the puncture, which completed the operation. The bandage was left on to support the relaxed abdominal walls. There was nearly two tubs of fluid drawn—estimated sixteen gallons.

I repeated the operation three times in the next two months. I then gave the instruments to her husband, a negro of average intelligence, and he repeated the operation fourteen times before her death, twelve months later.

But little or no attention was given to asepsis, though no apparent harm ever resulted from sepsis.

The statements made as to the number of tappings and the amount of fluid drawn are based on the record in the family bible made by her husband soon after her death.

## Proceedings of Societies.

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### CLINICAL SOCIETY OF MARYLAND.

Dr. Julius Friedenwald gave a demonstration of the electrical illumination of the stomach. The instrument used consisted of a small incandescent electric light attached to a soft rubber tube which enclosed the wires, and the other end of which was in connection with the battery. The stomach tube was first introduced and one litre of water poured into the stomach. The tube was then withdrawn and the electric light-bearing tube inserted in its stead. The room was then darkened, and when the battery was turned on the stomach was brilliantly illuminated. It was plainly outlined—the whole anterior wall was easily inspected, blood vessels of the abdominal wall being beautifully marked, and the movements of the stomach during respiration well demonstrated.

Dr. Osler thought this instrument would probably render valuable assistance in diagnosing very small tumors of the interior wall which could not easily be found by palpation.

Dr. Geo. Preston related an interesting case of "Widespread Muscular Atrophy."

Patient, a boy of 18, had been ill with cerebro-spinal meningitis for four or five weeks about four months previous to my seeing him. He was then feeling well enough and applied for treatment because of spinal curvature, which caused considerable deformity and interfered with walking. The muscles of the back were wasted and the deltoid and those of the arm and thigh were gone. Reflexes both deep and superficial were normal. Facial muscles were not affected. There was absolute deafness. No history of pain.

Dr. Harlan mentioned a case he had seen of absolute deafness attendant upon cerebro-spinal meningitis. Patient had also had syphilis and at the time had a large polypus in one ear.

The polypus was removed and potassium iodide administered. In a few days he could hear well in the other ear.

It was the only case he had ever seen of absolute deafness where there was restoration to hearing.

Dr. Frank Martin reported a case of "Tubercular knee-joint cured by injection of iodoform emulsion."

In November, 1893, I was called in consultation to see the patient—a child 22 months of age. Family history: Tuberculosis on mother's side.



Child: A picture of general tuberculosis, emaciated to a skeleton, hectic, high temperature, rapid pulse, persistent cough, lungs infiltrated, glands all over the body enlarged and knee on left side very much enlarged and full of pus.

In June the child had a cervical adenitis which was considered tuberculous. During August lobular pneumonia developed, which cleared to some extent, but cough continued and was gradually followed by symptoms enumerated above. Two weeks prior to my seeing it, the knee began to swell and became painful. This steadily increased until the joint was quite filled and patella floating. It looked as if it would break on the outside. I gave doubtful prognosis, had the limb thoroughly cleansed, applied soap poultice, and tied it up in bichloride. The next day operated; opened the joint freely, washed out with bichloride, 1 to 2000, and then with sol. boracic acid 3 per cent.; closed the wound, but before tightening the sutures injected  $1\frac{1}{2}$  oz. of sterilized emulsion iodoform 5 per cent. I then hermetically sealed the wound, covered with sterilized dressings and put on plaster splint. Slight reaction followed. On third day child had only temperature of 100 degrees.

When dressed on tenth day wound was healed, no fluid in joint and joint perfectly movable. Kept up immobilization and prescribed cod liver oil and syrup iodide of iron.

To-day the joint is perfectly well, glands are decreasing in size, there is no cough, and child is getting fat.

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Dr. Robert W. Johnson read a paper on "Strangulation of the Testicle Due to Twist of Spermatic Cord," and exhibited specimen.

Dr. W. S. Gardner followed with a paper on "The Conservative Surgery of the Uterine Appendages."

Last year in a paper read before the Medical Journal Club I reviewed the literature bearing upon the treatment of diseases of the appendages and endeavored to show that a large number of cases of what are now known to be salpingitis were not only relieved but permanently cured by purely medical treatment. The basis of the treatment was that inflammations of the Fallopian tubes, like other inflammations, have a tendency to recovery if the diseased organ is put at rest.

After the advocates of this rational form of treatment came those who have gone so far as to say that all diseased tubes and accompanying ovaries should be removed; that on account of their diseased condition they were useless so far as their functions as generative organs were concerned, and

hence the woman was better without them. Many of these operators have not taken into consideration the question of whether the function of menstruation should or should not be retained by the preservation of healthy ovaries or parts of healthy ovaries.

Now a third class is coming forward who say, 1st. Do all that can be done by medicinal and local treatment; then, when operation is necessary, do all you can to preserve the function of menstruation and the possibility of conception.

Dr. Gardner then quoted the opinions of several eminent authorities as to the effect of castration upon woman, and made a review of a number of cases treated by these men in the conservative manner, concluding with the following statements:

1. Women are better mentally and physically for the maintenance of menstruation and ovulation up to the period of nature's menopause.

2. Resection of the Fallopian tube when it does not contain pus is a practical operation.

3. When the tube is so diseased as to demand removal, the ovary being healthy, the tube should be removed and the ovary left.

4. Cysts of the ovary do not demand its removal in all cases, good results having been reported from resection.

5. Adhesions do not demand removal of tubes and ovaries, unless they are so dense that in breaking them the appendages are injured.

6. In all cases of chronic disease of the tubes the uterus should be curetted and packed with gauze.

7. Eneucleation of fibroid tumors leaving the ovaries is better than to remove the ovaries and leave the fibroid.

8. Conservative operations upon the appendages instead of rendering the patient hopelessly barren have cured a considerable number of cases of sterility.

Dr. W. P. Chunn—I believe in conservative methods and would try mild means before proceeding to radical operations. When the case is such as to demand a laparotomy, it is usually necessary to remove the appendages.

Dr. B. B. Browne—Conservatism seems to be the order of the day. I am satisfied that curetting and drainage frequently bring about such good results as to remove the necessity for laparotomy. It is always best if conditions permit to try the easier method first.

Dr. J. H. Branham—It is best to try easy methods and to save all we can to the woman, but in cases requiring laparotomy conservatism of operation may be carried too far. I can

hardly conceive of the epithelium being restored in a tube which has been the seat of suppurative inflammation. The chances of restoring the tube to its natural functions by delay are very slim. If you are sure you have pus tubes it is best to operate. Delay only leaves you in danger of extension.

The typical ovarian cyst, with chocolate-colored fluid and hypertrophied tissue, is essentially cancerous and is only quiet for a time. If you leave a piece of this you are pretty sure to have sooner or later general infection. As for ovary with multiple cysts, the pain is very great, and if you must operate for relief it is best to take out the whole ovary, otherwise you only leave chance for further cyst formation.

As for the operation unsexing a woman, it is not a universal opinion that there is such a great change.

Dr. Gardner, in closing the discussion, took exception to Dr. Branham's remarks about the cancerous character of ovarian cysts.

Dr. Hiram Woods, in his paper "Is Ophthalmia Neonatorum Always Curable?" said: "Last December, at the Presbyterian Eye and Ear Hospital, a baby came out of an attack of ophthalmia neonatorum with scarred cornea. Both eyes will have useful but never perfect sight. In the summer of 1892 I saw another case with one cornea badly damaged. In both cases the home cleaning was bad, and in one the mother failed for several successive days to bring the child to hospital for silver treatment. In the Transactions of the American Ophthalmological Society for 1893 is an account of a case lost by Dr. Randall, of Philadelphia, despite the most careful treatment, and it reminds me of a baby I saw three or four years ago—blind—who had been treated correctly from the beginning. In the light of these cases I have reviewed my experience and observation of this disease with special reference to the question, is it always curable? The experience of Dr. Randall and others compels a negative answer. But such cases are exceptional. The vast majority can be cured by routine treatment in from three to fourteen days. A few cases are not helped by cleaning and the 1 or 2 per cent. silver solution. Why? Frequently, I believe, because of rough handling. The disease is seen usually among the poor; trained nurses can not be employed and half-hourly cleansing is necessary. Unskilful attempts to clean the conjunctival sac often result in injury. Sometimes cleanliness and daily use of 1 or 2 per cent. of solution silver seem to have no effect upon a case. Should the silver be discontinued or employed in stronger form? As nearly as I can give the clinical condition demanding the discontinuance of silver it is: conjunctival purulency, unaccompanied

by lid infiltration, papillary swelling of conjunctiva and the deep red color seen in severe cases. There comes a time in a certain percentage of cases when, although purulency continues, nitrate of silver will not cure. In these cases it makes little difference what you use besides cleanliness, so the silver is stopped.

As for stronger silver applications, they are only *rarely* called for, and should never be used save by a skilled hand. The symptoms calling for it are profuse discharge of pus, swollen infiltrated lids, the rugous hypertrophied conjunctiva and the failure to respond to a weak solution. Children of premature birth, those relying on artificial food or those of weak constitution, form a class of cases in which prognosis is grave. Finally, I wish to protest against the use of cocaine in this disease to allay pain. Such practice is a deliberate courting of trouble.

Dr. E. J. Bernstein—I have met with one case which resulted badly, despite the fact that I pursued the usual treatment and had a trained nurse to look after detail.

Dr. R. L. Randolph—I have always noticed that the disease is most virulent in ill-fed or diseased children. I have always looked upon the affection as a modified form of the gonorrhœal ophthalmia of adults, and agree with Dr. Woods as to the treatment.

Dr. R. B. Norment—It strikes me that the cardinal point is to get at the treatment early. I have kept the eyes clean and used sol. bichloride, 1 to 6000, freely. I do not consider silver nitrate safe except in skilled hands. Bichloride can be used by any one without danger, and my results have been good.

Dr. H. Friedenwald—In some patients this disease is very slight and will get well without treatment other than cleanliness. It is surprising to me that the cornea is not more frequently attacked, when we consider its likelihood in the similar disease of adults. Silver nitrate should be applied to the lids. *Dropping* it upon the eye may cause opacity by cauterization. Bichloride has been tried often, but does not compare in value with silver. In test cases, where it was used in one eye and silver in the other, the latter produced the most prompt and best results by far.

Dr. Woods—Eyes have been lost by some of the most skilful oculists, as Knapp, Andrews, Randall, etc. The vast majority of cases are curable by early and proper treatment.

In Dr. Norment's cases the point is cleanliness. I think 1 to 6000 bichloride is no better than water. I doubt if that



solution would kill the gonococcus were it present. The reason for not using cocaine is that it produces exfoliation of the cornea, and thus opens the way for the germs. It is pretty generally recognized now that other secretions than gonorrhœal may cause ophthalmia neonatorum.

H. O. REIK, M. D., *Secretary*.

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#### AMERICAN MEDICAL ASSOCIATION.

SAN FRANCISCO, March 5, 1894.

The committee of arrangements has secured Odd Fellows' Hall building, corner Market and Seventh streets, for the meeting June 5, 1894.

Assembly Hall, for the general meeting, has a capacity of 1500; the twelve smaller halls for section work range in capacity from 500 downward, with committee rooms adjacent.

The engagement carries three of these rooms on Monday for accommodation of associate organizations, as that of the editors, colleges, etc.

The banquet room on the ground floor, 65x95 feet, will be devoted to exhibition purposes, for which it is admirably adapted, and has been secured for the entire week, that exhibitors may have Monday in which to place their goods and Saturday in which to remove them. Nearly half of the space is already taken, and others who desire to make a display of their goods under the most auspicious circumstances ever presented on the Pacific coast should lose no time in applying to the chairman for space.

Headquarters for the association have been located at the Palace Hotel, corner Market and Montgomery streets, only four blocks from the place of meeting. Here we have "Marble Hall," 30x40 feet, as a registration room, where work will begin on Monday, and "Parlor A" for committee work.

The following hotels, centrally situated and convenient to the place of meeting, have quoted special rates for members and their families, which will apply during the entire stay of the guests, who should, upon registering, signify that they are in attendance upon the meeting of the association.

The rates quoted are for single persons, the variation depending upon the size, situation and appurtenances of the rooms, as single, en suite, with private bath, etc. Special arrangements will be made for families or parties on timely notice.

Some of the hotels entertain upon the American plan only, some upon the European plan only, and some upon either plan to suit guests.

	Per day.
Palace Hotel (headquarters) American plan (room and board) \$3 50 to \$5 50	
“ “ European “ (room only) .....	1 50 “ 3 50
Baldwin Hotel, American plan .....	3 50 “ 5 00
“ European “ .....	1 00 “ 3 00
California Hotel, American plan .....	3 50 “ up
“ European “ .....	1 50 “ up
Lick House, American plan .....	2 50 “ up
“ European “ .....	1 00 “ up
Russ House, American plan .....	2 50 “ 3 50
“ European “ .....	50 “ 2 00
Occidental Hotel, American plan only .....	2 50 “ up
Hotel Pleasanton “ “ “ .....	2 50 “ 5 00
Grand Hotel, connected with the Palace by a glass enclosed bridge across New Montgomery street, European plan only	1 00 “ 2 00

In addition there are many other hotels, boarding houses, lodging houses and restaurants contiguous to the place of meeting where one can be made happy and comfortable at less cost.

Postoffice Section K is located in the Palace Hotel on the office floor adjacent to the registration room, where members can receive all mail matter by having it so addressed.

R. H. PLUMMER, *Chairman*.

The Section on Surgery and Anatomy will meet in San Francisco from June 5 to June 8, 1894. Chairman, John B. Roberts, M. D., of Philadelphia, Pa.; Secretary, Lloyd W. McRae, M. D., of Atlanta, Ga.

It is proposed to devote a portion of the time of this section to the systematic consideration of a few selected subjects, upon which papers, each not occupying more than ten minutes, will be read. It is hoped that speakers discussing these papers will confine their remarks to brief addresses of five minutes' length. The topics and papers to be so presented are as follows:

### *I.—Malignant Growths.*

The Pathology of Malignant Growths: E. Laplace, Philadelphia, Pa.

A Critique of the Sporozoan Theory of Malignant Neoplasms from a Micro-technical Standpoint: A. P. Ohlmacher, Chicago, Ill.

Clinical Recognition of Malignancy in Tumors: Henry W. Wheaton, St. Paul, Minn., and Henry W. Coe, Portland, Ore.

The Necessity of Early Surgical Interference in Malignant Tumors: R. A. McLean, San Francisco, Cal.

The Value of Caustics in Malignant Growths: John Parmenter, Buffalo, N. Y.

The Radical Cure of Malignant Tumors by Operation: J. H. Wythe, Oakland, Cal.

The Value of Inoculations with Septic or Toxic Agents in the Treatment of Malignant Neoplasms: John A. Wyeth, New York, N. Y.

## *II.—Tubercular Disease of Joints.*

Early Symptoms and Diagnosis of Tubercular Joint Disease: Emmet Rixford, San Francisco, Cal., and A. B. Judson, New York, N. Y.

Conservative Treatment of Tubercular Joints: R. H. Sayre, New York, N. Y.; Harry M. Sherman, San Francisco, Cal., and James E. Thompson, Galveston, Tex.

Operative Treatment of Tubercular Joints: Robert W. Lovett, Boston, Mass.

Treatment of Tubercular Joints by Injections of Iodoform: N. Senn, Chicago.

Treatment of Tubercular Joints by Injections of Corrosive Sublimate: R. H. Plummer, San Francisco, Cal.

## *III.—Hernia.*

The Causation and Prevention of Hernia: James T. Jelks, Hot Springs, Ark., and C. M. Richter, San Francisco, Cal.

The Management of Reducible Hernia: Emory Lanphear, Kansas City, Mo., and C. M. Fenn, San Diego, Cal.

The Treatment of Irreducible Hernia: James B. Eagleson, Seattle, Wash.

The Treatment of Strangulated Hernia: Joseph Ransohoff, Cincinnati, Ohio.

The Radical Cure of Hernia: W. E. S. Davis, Birmingham, Ala., and H. O. Marcy, Boston, Mass.

## *IV.—Hemorrhoids, Fistule and Fissure.*

The Pathology and Symptomology of Hemorrhoids, Anal Fistule and Anal Fissure: J. M. Matthews, Louisville, Ky.; David Powell, Marysville, Cal.

Treatment of Hemorrhoids: H. M. Bishop, Los Angeles, Cal.; Charles B. Kelsey, New York, N. Y.

Treatment of Anal Fistule: J. McF. Gaston, Atlanta, Ga.; G. B. Somers, San Francisco, Cal.

Treatment of Anal Fissure: Thomas W. Huntington, Sacramento, Cal.; Lewis H. Adler, Jr., Philadelphia, Pa.

*V.—Fractures.*

Treatment of Fractures of the Lower End of the Humerus: Oscar H. Allis, Philadelphia, Pa.

Treatment of Fractures of the Lower End of the Radius: P. T. Conner, Cincinnati, O.; C. L. Bower, Philadelphia, Pa.

Treatment of Fractures of the Neck of the Femur: Bedford Brown, Alexandria, Va.

Treatment of Gunshot Fractures: George A. Goodfellow, Tucson, Arizona.

Treatment of Fractures of the Shaft of the Femur: Llewellyn Eliot, Washington, D. C.

Treatment of Open or Compound Fractures: H. H. Mudd, St. Louis, Mo.; John B. Hamilton, Chicago, Ill.

*VI.—Obstruction to Urination in the Male.*

Effects of Obstruction in Urination Upon the Bladder and Kidneys: J. William White, Philadelphia, Pa.

Diagnosis and Treatment of Enlargement of the Prostate Gland: Hunter McGuire, Richmond, Va.; Wm. T. Belfield, Chicago, Ill.

Symptoms and Treatment of Stone in the Bladder: Wm. T. Briggs, Nashville, Tenn.

Symptoms and Treatment of Tumors of the Bladder: John B. Deaver, Philadelphia, Pa.; C. F. Buckley, San Francisco, Cal.

Treatment of Stricture of the Urethra: J. Rosenstirn, San Francisco, Cal.

Members who have specimens or patients to exhibit bearing on these topics or who wish to make remarks in the discussion of them are cordially invited to be present during the meetings of the section. The titles of other papers to be presented to the section will be published when the programme of the meeting of the association is issued by the Committee of Arrangements.

JOHN B. ROBERTS,

*Chairman Section on Surgery and Anatomy, 1627 Walnut Street, Philadelphia, Pa.*

**PRELIMINARY PROGRAMME OF THE CONGRESS OF AMERICAN  
PHYSICIANS AND SURGEONS.**

The meeting will be held in Washington, D. C., on May 29, 30, 31, and June 1, 1894.

President, Alfred L. Loomis, M. D., New York City.

Vice Presidents, Ex-officio—The president of the American Ophthalmological Society, Dr. George C. Harlan, Phila-



delphia, Pa.; the president of the American Otological Society, Dr. Gorham Bacon, New York City; the president of the American Neurological Association, Dr. B. Sachs, New York City; the president of the American Gynecological Society, Dr. William T. Lusk, New York City; the president of the American Dermatological Association, Dr. Robert B. Morison, Baltimore, Md.; the president of the American Laryngological Association, Dr. D. Bryson Delavan, New York City; the president of the American Climatological Association, Dr. Andrew H. Smith, New York City; the president of the Association of American Physicians, Dr. Reginald H. Fitz, Boston, Mass.; the president of the American Association of Genito-Urinary Surgeons, Dr. George Chismore, San Francisco, Cal.; the president of the American Orthopedic Association, Dr. A. M. Phelps, New York City; the president of the American Physiological Society, Dr. Henry P. Bowditch, Boston, Mass.; the president of the Association of American Anatomists, Dr. Harrison Allen, Philadelphia, Pa.; the president of the American Pediatric Society, Dr. James H. Keating, Colorado Springs; the president of the American Surgical Association, Dr. J. Ewing Mears, Philadelphia, Pa.

Chairman of the Executive Committee, Landon Carter Gray, M. D., New York City.

Treasurer, John S. Billings, M. D., Washington, D. C.

Secretary, William H. Carmalt, M. D., New Haven, Conn.

#### SUBJECTS FOR DISCUSSION.

##### *By the Association of American Anatomists.*

“Morphology as a Factor in the Study of Disease”: Opened with a paper by Dr. Harrison Allen, professor of Comparative Anatomy in the University of Pennsylvania, and discussed by Dr. Thomas Dwight, professor of Anatomy in the Harvard Medical School, Dr. Frederic H. Gerrish, professor of Anatomy in Bowdoin College, Dr. Frank Baker, professor of Anatomy in the University of Georgetown, and Dr. Burt C. Wilder, professor of Physiology, Comparative Anatomy and Zoology in Cornell University.

##### *By the American Climatological Association.*

“Sewer Gas”: “The Bacteriology,” by Dr. Alexander C. Abbott, first assistant in the Laboratory of Hygiene, University of Pennsylvania. “As a Cause of Disease,” by Dr. Abraham Jacobi, professor of Diseases of Children in the College of Physicians and Surgeons in New York City.

*By the American Dermatological Association.*

"The Distribution and Control of Leprosy in the United States"—"The Distribution": Opened with a paper by Dr. J. Nevins Hyde, professor of Skin and Venereal Diseases in Rush Medical College, Chicago, and discussed by Dr. Wm. A. Hardaway, professor of Skin Diseases in the Missouri Medical College, St. Louis, and Dr. James E. Graham, lecturer on Diseases of the Integumentary System in the Toronto School of Medicine. "The Prophylaxis and Treatment," with a paper by Dr. Jas. C. White, professor of Dermatology in Harvard Medical School, and discussed by Dr. George H. Fox, professor on Diseases of the Skin in the College of Physicians and Surgeons of New York City, Surg. Gen. W. C. Wyman, U. S. M. H. Service, and Dr. Joseph D. Bryant, professor of Anatomy and Clinical Surgery, Bellevue Hospital Medical College, New York City.

*By the American Association of Genito-Urinary Surgeons.*

"Nephritis in its Surgical Aspects"; Opened with a paper by Dr. Edward L. Keyes, New York City, followed by a paper from Dr. George M. Sternberg, Surgeon General United States Army, on "The Bacteriology of Nephritis," and discussed by Dr. George Chismore, of San Francisco, Cal., Dr. L. Bolton Bangs, Surgeon to St. Luke's Hospital, New York City, Dr. Francis S. Watson, instructor in Genito-Urinary Diseases in Harvard Medical School, Boston, Mass., and Dr. W. N. Wishard, of Indianapolis, Ind.

*By the American Gynecological Society.*

"The Conservative Surgery of the Female Pelvic Organs": Papers will be read by Dr. Wm. M. Polk, professor of Obstetrics and the Diseases of Women and Children in the University of the City of New York, and Dr. Wm. Goodell, honorary professor of Gynecology in the University of Pennsylvania.

*By the American Laryngological Association.*

"The Surgery of the Accessory Sinuses of the Nose": To be discussed by Dr. J. Solis-Cohen, professor of Laryngology, Jefferson Medical College, Philadelphia, Dr. F. J. Knight, professor of Laryngology in Harvard Medical School, Dr. George M. Lefferts, professor of Laryngology and Diseases of the Throat in the College of Physicians and Surgeons in New York City, Dr. F. H. Bosworth, professor of Diseases

of the Throat in Bellevue Hospital Medical College, Dr. William C. Glasgow, of St. Louis, Mo., and Dr. E. Fletcher Ingalls, of Chicago, Ill.

*By the American Neurological Association.*

“The Influence of Infectious Processes on the Nervous System”: “Pathology and Etiology,” by Dr. Jas. J. Putnam, lecturer on Nervous Diseases in the Harvard Medical School; “The Relation to General Nervous Diseases,” by Dr. E. C. Seguin, of New York; the “Relation to Mental Disease,” by Dr. Charles K. Mills, professor of Mental Diseases and Medical Jurisprudence in the University of Pennsylvania; and “The Therapeutics,” by Dr. F. X. Dercum, of Philadelphia.

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AMERICAN SURGICAL ASSOCIATION.

PRELIMINARY PROGRAMME OF THE ANNUAL MEETING.

The meeting of the above association will be held in the lecture-room of the Medical Department of the Columbia College, 1325 H street, N. W., Washington, D. C., on May 29, 30, 31, and June 1, 1894.

SPECIAL SUBJECTS FOR DISCUSSION.

*I.—The Surgical Treatment of Empyema, by John Ashhurst, Jr., M. D.*

SUMMARY.

1. No operation is justifiable unless the presence of pus is certain; unless thorough treatment by medicinal agents, blisters, etc., has failed; or unless the symptoms, dyspnoea, etc., are so urgent as to demand immediate relief.

2. The first operation should consist of simple aspiration, with antiseptic precautions.

3. When the fluid has partially reaccumulated, as it almost certainly will do if purulent, incision and drainage should be practised.

4. Drainage is best effected by making two openings, one at the lowest point, and carrying a large drainage tube through the cavity from one opening to the other.

5. Drainage should be supplemented by washing out the cavity with mild antiseptic fluids; when the lung has expanded and the discharge has nearly ceased, the tube should be shortened, the upper opening being allowed to heal, and the tube then being gradually withdrawn through the lower opening.

6. When the lung is so bound down by adhesions that it can not expand, resection of two or more ribs should be practised (Estlander's operation, so called), in order to allow collapse of the chest wall and to promote healing by bringing the costal and visceral layers of the pleura into contact.

7. The more extensive operations of Schede and Tillmans, while probably justifiable in exceptional cases, are not to be recommended for general employment.

The discussion of the paper will be opened by Drs. N. P. Dandridge, C. B. Nancrede, T. F. Prewitt and DeF. Willard.

## *II.—Methods of Teaching Surgery. By J. S. Billings, M. D.*

### SUMMARY.

Two classes of students. 1. Undergraduates. 2. Those wishing to make a special study of Surgery.

For the first class, work of teaching divided between Professors of Pathology, of Surgery, and of Clinical Surgery, and Demonstrators.

What should be the relations between these and the teachers of Gynecology, Orthopedic Surgery, Genito-Urinary Surgery, etc.?

Methods of teaching. 1. Didactic lectures. 2. Recitations. 3. Demonstrations by means of manikins, cadavers, operations on animals, etc. 4. Clinical lectures to large classes. 5. Practical clinical instruction to small classes.

How far should the didactic teaching be subordinated to clinical and demonstrative teaching?

Relations of hospitals to clinical teaching. Instructions in History and Literature of Surgery.

Provisions to be made for special students.

The discussion of the paper will be opened by Drs. J. C. Warren, N. Senn, W. W. Keen, E. M. Moore, W. T. Briggs and Hunter McGuire. It is desired that the discussion of this paper should be participated in by the Fellows generally.

## *III.—The Surgery of the Kidney. By L. M. Tiffany, M. D.*

### SUMMARY.

1. Influence of disease of kidney on general surgery.
2. Nephritis.
3. Pyelonephritis.
4. Nephrolithiasis.
5. Nephrectomy, partial and complete.



The discussion of this paper will be opened by Drs. M. H. Richardson, H. H. Mudd, C. H. Mastin and Ford Thompson.

*IV.—Methods of Controlling Hæmorrhage in Amputation at the Shoulder, as illustrated by three cases of amputation at the shoulder-joint and of the entire upper extremity. By W. W. Keen, M. D.*

#### SUMMARY.

1. Amputation at the shoulder-joint with the use of Wyeth's pins.

2. Amputation at the shoulder-joint with preliminary ligation of the vessels in the interspace between the deltoid and the pectoral muscles.

3. Resection of the clavicle and securing the vessels, followed by amputation of the entire upper extremity, including the clavicle and scapula.

The discussion of the paper will be opened by Drs. Roswell Park, C. B. Porter and J. William White.

*V.—Paper by Hunter McGuire, M. D.*

*VI.—Paper by Joseph Ransohoff, M. D.*

Fellows who desire to present volunteer papers are requested to send the titles of the papers to the address of the Business Committee, 1429 Walnut street, Philadelphia, not later than April 18, 1894.

The sessions of the association will be held in the lecture room of the Medical Department of the Columbia College, 1325 H street, N. W., Washington, D. C., on May 29, 30, 31, and June 1, from 10 A. M. to 1 P. M.

The sessions of the congress will be held in Metzert's Hall, corner of Twelfth and F streets, N. W., in the afternoon from 2 to 5 o'clock.

The office of registration of the congress will be at the Arlington Hotel. Registration of individual members of the constituent associations of the congress is necessary to make them members of the congress.

Dinner to the guests of the congress at the Arlington Hotel, Wednesday, May 30, 7 P. M.

Reception by the president of the congress, Thursday evening, May 31.

J. R. WEIST, M. D., *Secretary.*

## THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

WASHINGTON, D. C., March 1, 1894.

The fourth annual meeting of "The Association of Military Surgeons of the United States" will be held in Washington, D. C., May 1, 2 and 3, 1894.

This national organization is composed of medical officers of the U. S. Army, U. S. Navy, National Guard of the United States and the Hospital Marine Service—in whose service are many of the most celebrated and distinguished surgeons of our country. A brilliant and able literary programme will be presented. The afternoon of one day will be set apart for an object lesson from the "Manual of Drill," by the Hospital Corps. The evenings will be given up to social entertainments. There will be about 500 delegates in attendance.

GEORGE HENDERSON,  
*Chairman Committee of Arrangements.*

# N. O. Medical and Surgical Journal,

ESTABLISHED IN 1844.

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Articles from physicians are respectfully solicited. All articles, news and exchanges, and books for review, should be sent to the EDITOR, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL. Business communications should be addressed to the BUSINESS MANAGER, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

EDITED AND PUBLISHED BY

AUGUSTUS McSHANE, M. D

COLLABORATORS:

DR. F. W. PARHAM.

DR. H. W. BLANC.

DR. A. W. De ROALDES

DR. R. MATAS.

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## Editorial Articles.

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### ANOTHER "SURE CURE" FOR CONSUMPTION.

Dr. Giovanni Carasso, of the Italian army, comes forward with a treatment for pulmonary tuberculosis which, he says, not only checks the disease in its incipency but cures it even where there are large and numerous cavities in the lungs. Beechwood creasote, by itself, is useful in the early stages of consumption, but it does not fulfil expectations when cavities have formed. Since 1888 Dr. Carasso has employed a method of treatment that has given very gratifying results. It consists in the continued inhalation of oil of peppermint, associated with the internal use of an alcholic solution of beechwood creasote, mixed with glycerine and chloroform, to which 1 per cent. of essential oil of peppermint is added.

The originator of the method says that it has been crowned with the most splendid results, not only in the first stage of the disease, but also in extremely advanced cases. In every case the disappearance the tubercle-bacilli from the sputum was noted which took place in periods varying from thirteen to sixty days. As a consequence, the cough and expectoration diminished, the night-sweats ceased, and the general nutrition improved; the weight increased while hyperalimentation was practised. Little by little the physical signs underwent a change; the nor-

mal percussion-sound was heard in the places at first diseased, and the vesicular murmur returned ; in a word, all the signs of a complete *restitutio ad integrum* were present. When the lung trouble was accompanied by fever this latter disappeared in a few days.

These very beautiful results were obtained in not less than thirty-nine cases of tuberculosis in all stages, but chiefly when the lesions were confined to the lungs alone.

We hope, for humanity's sake, that Dr. Carasso had not felt himself called upon to draw on his imagination for his facts in determining the physical signs in a case of large cavities that have healed. Every physician must feel a deep interest in any plan that holds out a reasonable hope of success in the treatment of consumption. Our hopes have been raised up and cast down so often that we may be pardoned for being a wee bit skeptical, while bearing in mind, however, that a wholesome skepticism does not justify us in withholding from our patients the benefits of a plan of treatment that seems to have given good results in the hands of some competent observer.

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## Abstracts, Extracts and Annotations.

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### MEDICINE.

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#### HYSTERIA FROM ALCOHOL.

By H. C. COE, M. D., New York.

Every practitioner encounters hysteria of obscure origin in patients not previously suspected of being particularly neurotic. Usually a careful review of the history or the discovery of some unusual cause of excitement explains the phenomena satisfactorily, but sometimes the outbreak was so violent as to suggest a different influence. In certain women the physician was prepared to come in contact with frequent cases of inebriety with unmistakable symptoms, but is seldom on the lookout for them among highly respectable women. That tipping is a common practice among fashionable women is well known. They resort to stimulants in order to support the strain incident to their exciting and irregular mode of life. It is seldom



that the effect is visible, except in an unnatural vivacity, the source of which is suspected only by a practised eye. It is only after unwonted indulgence that the old hands lose control of themselves and display such actions as may readily be mistaken for those of pure hysteria. The stage of exhilaration manifested in men by hilarity, loud talking, confusion of ideas, etc., often finds expression in women in complex phenomena included under the head of hysteria. The subjects are usually of a distinctly nervous type.

The case can be classified under two heads: First, those in which young women, naturally well balanced, unaccustomed to the use of alcohol, take an amount which, for them at least, was excessive. Second, older women of a neurotic type, who are accustomed to use spirits more or less freely. In every case of supposed hysteria to which one was summoned for the first time it was wise to ask if the manifestations might not be directly due to the use of stimulants, either with or without the knowledge of the patient's family. Considerable tact is often necessary in order not to arouse the suspicions of the family, who might be entirely ignorant of her failing. A frank conversation with the patient when she is in her normal condition is more likely to be attended with good result than a hasty and injudicious reprimand at the time. It is important to remember that a small amount of alcohol might be sufficient to upset a woman who is not an habitual tippler. The diagnosis may present great difficulties, especially in the case of a strange patient, or one who gives a previous history of hysteria, particularly at the time of the menstrual period, when so many women use liquor for dysmenorrhœa. Certain phenomena of true hysteria are usually absent in those who are under the effects of alcohol; visceral manifestations, areas of anæsthesia, paralysis, contractures, etc. The patients are not in a condition to practice successfully the usual deceptions of hysteria. Exaltation is more marked than depression. In regard to the prognosis, the alarmed family can be assured that nothing serious is the matter, but that the patient is suffering from an ordinary nervous attack, from which she will speedily recover. The question of her future is a more serious one, to be determined by the frequency of the attacks and her power to control the craving for stimulants and to resist temptation to resort to chloral, morphine and other drugs. The ordinary treatment of an hysterical attack is useless in the alcoholic cases. The stomach is only upset without relief being produced. If the patient could sleep soundly she would soon regain her equilibrium, and for this purpose I have found nothing better than the old-fashioned Dover's powder. Morphine hypodermically

usually excites the patients much more and makes the condition worse. The question of subsequent treatment of such cases is an important one. A sensible woman who has unwittingly overstimulated herself will be so mortified that she will carefully guard against any repetition. The family physician is in a position to exert a strong influence in the right direction. He should not only warn his patients against the pernicious effects of tippling, but discourage the common practice of administering spirits freely to young girls at the menstrual period. Cases of inebriety are clearly traceable to such a practice. It is hardly necessary to add that the physician who prescribes a drink of whiskey or brandy for every slight ailment assumes a responsibility only a little less than that taken by the one who gives an injection of morphine under similar circumstances.—*Medical Standard*.

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### SEROTHERAPY.

By G. G. VAN SCHAICK, M. D., Instructor in Operative Surgery, Post-Graduate Medical School, New York.

The serum of animals and even of men, either normally or artificially rendered immune to the effects of certain infectious diseases, has been proved to possess properties which render it of the highest value from certain prophylactic standpoints, and of great probable use in the treatment of actual infection. A short review of what has so far been accomplished in these directions will be of interest.

These properties, while chiefly studied in serum, are possessed by other liquids of the organism. Samarelli showed, more than a year ago, that saliva destroyed certain bacteria, and so altered the nature of others, such as the pneumo-bacillus, as in some cases to render them harmless. Brieger and Ehrlich have shown that the milk of immune animals could transfer immunity to others which were susceptible.

The nature of this anti-toxic property is as yet but little understood, and is the subject of various theories and surmises; the liquids of the organism must act, in this respect, in one of four ways: either (1) they possess a bactericidal property which enables them to destroy the offending germs; or (2) an attenuating effect, which merely destroys their offensive power; or else (3) they act directly upon the toxins which are secreted by the bacteria and neutralize their effects; (4) or, at last, they exert a sort of catabolic action on the liquids or the solids of the organism, or both, through which the latter are enabled to repel the invasion of the parasites when they come in contact. Whichever one of these various views we may be

tempted to adopt can as yet appeal to us merely from theoretical standpoints, whereas the fact itself of the antitoxicity of these liquids is one as firmly established and as clearly demonstrable as any mathematical proposition, and gives us a firm and valuable point of departure in the field of prophylactic and clinical research. It may here be said that this antitoxicity of certain organic liquids has been deemed by some as dealing a death blow to the phagocytic theories of Metchnikoff, who merely answers that these liquids act as stimulants, which prompt the phagocytes to renewed and stronger effort. Knowing as we do that there are still many substances of vegetable or mineral origin which are daily employed with full knowledge of their effects, while their exact mode of action is still surrounded with doubt and obscurity notwithstanding years of research on the part of scores of observers, we most patiently await the time that shall vindicate the true opinion in these theoretical matters, and make use at once of those data which are daily accumulating in the matter of serotherapy, and which promise so much good to the generations to come, and probably to the present one.

Researches on serotherapy date from but a few years ago. While Richet and Hericourt first announced the preventive properties of the blood of animals which had been rendered immune against a special form of septicæmia, the publication of the researches made by Behring and Nissen in regard to the bactericidal properties of the serum of animals vaccinated against the *Vibrio Metchnikovi*, and, of still greater importance, the experiments published a few months later, in December, 1890, by Behring and Kitasato, in regard to two of the most infectious diseases known, diphtheria and tetanus, mark the beginning of what we may be allowed to call the era of serotherapy. In tetanus they produced immunity by inoculating the animals with cultures which were attenuated by the addition of varying quantities of trichloride of iodine. Rabbits, horses and sheep were thus rendered refractory to tetanus, and their blood, in various degrees, proved capable of protecting mice against the tetanic virus. In regard to this disease, it may be said, according to Schütz, who participated in some of these experiments, that so far the experimental results do not as yet allow of our rendering a definite judgment as to the curative effects of the blood of immunized animals. The matter, therefore, requires further experimentation. Tizzoni and Cattani have shown that this anti-tetanic serum preserves its properties for a very long time. In connection with this, it is interesting to note that Courmont and Doyon have isolated the convulsing element from the muscular substance of animals.

According to them it is distinct from the toxic substance secreted by Nicolaier's bacillus, since the activity of the latter is destroyed at a temperature of 75 deg. C. (167 deg. F.), whereas the former is not destroyed by boiling, and acts as a ferment, under the influence of which the true convulsing matter is produced.

Immunity against diphtheria was secured by Behring and Kitasato in the same manner—*i. e.*, by the use of the trichloride of iodine. Experiments with the serum of immunized animals proved it to possess antitoxic properties, and, in some instances, to be curative. Investigations in the treatment of human diphtheria by means of this serum have not as yet proved decisive, although Aronson's later investigations show much promise of future success.

Klemensiewicz and Escherich have inoculated guinea pigs with serum procured from patients convalescing from diphtheria and have produced a decided degree of immunity which, however, only lasted for a short period (14-20 days).

A host of experiments bearing upon serotherapy are now being conducted, and new data are constantly being added to our knowledge of the subject. Most important, among others, are the investigations that have been carried on in regard to pneumonia, tuberculosis, syphilis, influenza, cholera, anthrax, and typhoid fever.

We have already said that the virulence of pneumococci is sometimes mitigated by the action of the saliva. Issaëff has shown that the serum of rabbits vaccinated against pneumococci possesses no antitoxic power, in the strict acceptation of the word, while it has a decided therapeutical utility. Pansini is authority for the statement that when this serum is injected to animals, and they survive the inoculation of a pure culture of pneumococcus, they become proof against further inoculation. The researches made by Arkharow further substantiate these views.

As regards tuberculosis, we know that dogs, while refractory to experimental aviary tuberculosis, are no longer immune if inoculated with human tuberculosis. Hericourt's investigations demonstrate the interesting fact that if dogs are vaccinated with a culture of aviary tuberculosis, they become refractory to the human form, and their serum acquires an antitoxic property toward the latter. Dieulafoy has obtained some good results in the application of this serum to the treatment of tuberculosis, of which we are undoubtedly destined to hear more.

Further researches may prove that in serotherapy we may find the very best weapon against syphilis. Tommasoli has



treated this disease by the injection of serum taken from animals normally refractory to syphilis, such as sheep and calf. He injected from four to eight cubic centimetres at a time, in the gluteal region of his patients, who numbered thirteen, and suffered from manifest forms of secondary syphilis. An average number of six injections was made in each case. The specific manifestations disappeared within a fortnight in every instance, and the patients, all of whom were observed for periods ranging from four to seven months after the treatment, have so far shown no return of the disease. Some disturbances, such as local pain at the site of injection, slight febrile movements of a transitory nature, usually resulted, especially when the dose was larger than 4 c. c., but were not severe enough to constitute a contra-indication to the employment of this treatment. Pellizzari and others, especially in Italy, have also made investigations in the same direction, which tend to show that in the near future we shall be placed in possession of a royal road to the cure of this frightful malady.

Bruschettini, in investigating the biology of influenza, found a microbe similar to that which had been described by Pfeiffer, and which required, for its artificial growth, the presence of a certain quantity of blood in the culture media. He obtained immunity in animals by injection of this culture after filtration, and found that their serum possessed marked curative properties; it will cure in very small doses an animal which otherwise would die in five or six days, even when administered as late as forty-eight hours after the inoculation. When given before the inoculation, 25 milligrammes (gr.  $\frac{1}{3}$ ) of this serum is sufficient to immunize a rabbit weighing one kilogram.

In cholera, Lazarus has demonstrated the fact that the serum of people who have just recovered from the disease can protect guinea pigs in which a pure culture is inoculated within the peritoneum.

With reference to typhoid fever, it has been found by Bruschettini that a high degree of immunity could be conferred by the inoculation of cultures attenuated by being submitted to a temperature of 60 deg. C. (140 F.), or of old cultures in broth and gelatin. The serum of animals thus protected showed strong bactericidal properties and a powerful antitoxic action upon cultures of typhoid bacillus.

Anthrax was one of the first diseases which furnished data for serotherapy. Ogata and Jasuhara, of Tokio, discovered that the blood of an animal rendered immune against anthrax would neutralize the toxic products of anthrax bacilli, and their discovery has been repeatedly confirmed.

This brief review of the subject shows that as yet, syphilis

is probably, of all infectious diseases, the one most amenable to serotherapy.

The preparation of the serums that are employed, whether prophylactically or curatively, demands, of course, the most rigorous and precise application of the laws of asepsis. It can easily be understood that the slightest error in this regard might easily cause various forms of infection which might prove fatal.

From the larger animals, the blood may be received directly within a sterilized pipette, the end of which is introduced within a blood vessel. After removal the pipette is sealed by heat. The serum is then allowed to separate at a low temperature, and, as a last stage, microscopical and culture tests are made to ascertain its freedom from infectious germs. When smaller animals are used, in which the calibre of the blood vessels is too small to allow of this procedure, the blood is allowed to flow into a sterilized vessel, and the serum, once separated and collected, is sterilized under pressure of carbonic acid gas, or by any of the methods recommended by Koch and others.—*N. Y. Therapeutic Review.*

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### GASTRO-INTESTINAL ANTISEPSIS.

By A. MATHIEU, M. D., Physician to the Hospitals of Paris.

The position which the theory of gastro-intestinal auto-intoxications and the practice of antiseptis of the digestive tube have taken in general pathology and therapeutics is well known. We shall briefly recall the series of works which have made of this question a primary topic of the present time.

In the first place it was demonstrated that nitrogenous substances may, by suffering putrefaction, create toxic products, and that these toxines are capable, once introduced into the organism, of provoking grave accidents (Gaspard, Panum, Bergmann and Schmiedeberg, Selmi, Gautier, Brouardel and Boutmy, etc.).

The organism in normal state is sufficiently protected by the liver and kidneys against poisons that come from the intestine. Several works, in particular those of G. H. Roger, have demonstrated that the liver destroys in their passage a part of the toxic substances. The kidneys eliminate those which the liver could not destroy; hence the toxicity of urine. Hence also, in diseases of the liver and of the intestine, the indication is to diminish the production of bacterial fermentations in the digestive tube by excluding as much as possible from the alimentation substances already putrefied,

liable to contribute an exaggerated quantity of agents of fermentation.

But food does not at once penetrate into the intestine; it is at first received by the stomach, where it remains for a time. It has been supposed, consequently, that there were auto intoxications of stomachal origin. With what noise in the world Dr. Bouchard's theory of stomachal dilatation and auto intoxications of gastric origin was received is well known.

The microbes that swarm in the intestine must have reached it especially, if not exclusively, by passing through the stomach. If there be indications in many cases to disinfect the intestine, there is equally, in certain cases, a need to practise antiseptics of the stomach.

**STOMACHAL ANTISEPTICS.**—A preliminary question suggests itself: Is there ever cause, and when is there cause, to practise antiseptics of the gastric cavity?

In the normal state, a natural antiseptics is effected in the stomach by the intermediary of hydrochloric acid, as has been demonstrated by a series of researches.

Gastric juice has the antiputrid, antifermentescible action which Spallanzani was the first to concede, and it owes this quality to chlorhydric acid; but this antiseptic action, which is sufficient to moderate secondary fermentations, is never capable of arresting them entirely.

The idea of auto-intoxication of gastric origin, enunciated by Litten and by Naunyn, has been developed and warmly defended by Dr. Bouchard. He based it on his clinical and pathogenic conception of the dilatation of the stomach. His doctrine is well known; we shall briefly review it. In his view dilatation of the stomach is frequent, it often passes unnoticed if it be not systematically sought; it expresses itself in a stasis of the stomachal contents which, because of the lack of enough chlorhydric acid in the gastric juice in such cases, allows abnormal fermentations to produce themselves in the stomach itself, to create in it substances that are foreign to the organism, permitting an exaggerated number of microbes to penetrate into the intestine. It opens the door especially to tuberculosis and to typhoid fever.

Dr. Bouchard and his pupils attributed among other things to dilatation and gastric stasis all the phenomena that other authors, especially Charcot, attribute to primitive neuropathy and especially to neurasthenia.

Grave objections may be made to the doctrine of Dr. Bouchard and of his pupils, as follows:

1. They admit stasis when it has no existence in fact (Debove A. Mathieu).

2. When it exists there is often neither absence nor insufficiency of chlorhydric acid, but, on the contrary, hyperchlorhydria, and this precisely in cases where are clinically observed the symptomatic condition which Dr. Bouchard regards as derived, by the intermediary of auto-intoxication, indirectly from hyperchlorhydria.

3. Most usually, nervous phenomena precede and predominate over gastric phenomena (Charcot).

4. Neurasthenic phenomena may occur without any sort of appreciable trouble to gastro-intestinal digestion.

When the facts of hyperchlorhydria and dyspepsia secondary to neuropathy are taken from the total of facts attributed by Dr. Bouchard to dilatation of the stomach, when stasis is admitted only after *de visu* demonstration by cleansing of the stomach (Debove), observations of true dilatation with stasis and excessive gastric fermentations become relatively scarce.

They really happen, however. When the motility of the stomach is much diminished, when there is an obstacle more or less considerable in the pylorus, there is stasis in the stomach of a quantity more or less considerable of material wherein secondary fermentations are very easily developed. This is expressed at times by a veritable putrefaction, often by an organic hyperacidity more or less intense.

Under these conditions it is necessary to proceed to antiseptics of the stomach. This antiseptics may be effected by *mechanical* and by *chemical* means. The mechanical means are vomiting and washing of the stomach.

The prescribing of an emetic is a classic means of treatment and of cure for gastric trouble; the effect is yet more complete when, by the aid of an emeto-cathartic, vomiting and purging are provoked at once. Thus is realized mechanical antiseptics, a real cleansing of the digestive tube. And gastro-intestinal trouble seems to be frequently enough, if not always, the result of auto-intoxication of gastro intestinal origin.

Lavage is certainly a powerful means of obtaining gastric antiseptics; we have even much inclination to consider it, with Hayem, as the best means.

The washing may be made with pure water, preferably boiled water, or with solutions more or less antiseptic. With the latter, not only the contents of the stomach, with the microbial agents and the toxic products, are made to pass out, but the walls of the cavity are disinfected.

Numerous solutions have been proposed: salicylic acid at 2 or 3 per 100; thymol at 0.5 per 1000; borax at 2 per 100; creoline at 0.5 or 1 per 1000. Many others have been proposed



(potassæ permanganas, hypo-sulphate of sodium, chlorate of sodium, etc.). We think that it may be enough to effect the washing with boiled water.

When there is simply atonic neuromotory dyspepsia with momentary tendency to stasis and organic hyperacidity a few cleansings with boiled water suffice to make hyperacidity disappear at the beginning of treatment.

We prescribe saturated boric water, that is at 3.3 per 100 at 1 per 30; 300 grammes, corresponding to 10 grammes of boric acid, may be given in two doses. The dose is perfectly bearable. We have prescribed it without appreciable inconvenience for successive periods of more than 10 days. Boric acid has seemed useful to us in cases of stasis with acid fermentations.

INTESTINAL ANTISEPSIS.—Most authors have had in view simultaneously gastric and intestinal antiseptics. The stomach was aimed at as well as the intestine. Benzo-naphthol appears to furnish means of reaching the intestines without affecting the stomach, thus constituting real progress. However this may be, we shall write here as much of the stomach as of the intestine, the first being the antechamber of the second—the distinction between gastric antiseptics and intestinal antiseptics is very uncertain in many cases. In general, however, the intestine much more than the stomach must be aimed at, because permanent gastric stasis, outside of hyperchlorhydria, is not very frequent, and in auto-intoxication, even with partial complicity of the stomach, the evil comes less from the latter than from the intestine.

A distinction may be made here again between mechanical and chemical antiseptics.

There are two modes of mechanical antiseptics: *purgation* and *cleansing of the intestines*.

Physicians have made for a long time, with the aid of purgatives, intestinal antiseptics without knowing it. They are the consecrated remedy for gastro-intestinal trouble, for acute diarrhœas alimentary in origin. It is agreed, especially under these conditions, to use purgative salts either in natural form or in mineral waters.

Thorough washings are, when the object is to effect intestinal antiseptics, far superior to simple clysters, the effect of which is too often incomplete.

Warm water, different medical solutions more or less antiseptic, more or less modifying, have been used.

It is a matter of course that the cleansing of the large intestine shall always be accompanied by other intestinal antiseptics, and that, according to eventual indications, cleansing of the stomach shall be done simultaneously with antiseptics by

naphthol, salol, or benzo-naphthol. A diet must be presented which may contribute to this antiseptis, according to general rules, which we will mention hereafter.

MEDICAL ANTISEPTIS.—To effect intestinal antiseptis, a great number of substances have been tried: charcoal, iodoform, camphor, calomel, black sulphur of mercury, salicylate of bismuth, naphthaline, sulpho-carbonated water, salol, antipyrine, naphthols A and B benzo-naphthol \* \* \* and the list is not complete.

Dr. Bouchard used naphthol B and salicylate of bismuth, in accordance with the well-known formula:

R Naphthol, finely pulverized.....gr. xv.  
Salicylate of bismuth.....gr.7.50.

Mix and divide into thirty powders, to be taken from three to twelve in number, every twenty-four hours.

Naphthol and salicylate of bismuth have since then had much vogue, and they have been mixed with other substances according to the form of the therapeutics desired.

From 2 to 3 grammes per day of resorcin may be prescribed for internal use, in doses of 50 centigrammes to 1 gr. 50 (Soulie).

Naphthol and salicylate of bismuth are not unobjectionable.

Dr. Hayem recommended their prescription in a lemonade, containing 10 to 15 per thousand of lactic acid.

This lemonade is taken by wine-glassful between meals. Its good effects in cholera nostras, the fact that the comma bacillus is not developed in acid, led Dr. Hayem to recommend this acid in Asiatic cholera.

Dr. Hayem makes much use of Kephir; it is to lactic acid that he attributes a great part of its favorable action.

It is to benzo-naphthol that we are led to give the preference in intestinal antiseptis, and to cleansing in antiseptis of the stomach.

Charrin has made a remarkable observation. In three patients with chronic enteritis, with naphthol B given in the proportion of 4 grammes in twenty-four hours, he succeeded in suppressing a third of the toxicity of the urines.

It is useless to try to effect complete antiseptis of the intestine. It is evident that such antiseptis would not be consonant with life. *Total, absolute antiseptis would certainly arrest the action of digestive ferments, and also the fermentations of microbial origin which are useful to us.* Duclaux has demonstrated that there are microbes in the intestine which emulsify the fat, which coagulate casein, which peptonize albuminoid substances, which transform starch into sugar, which invert cane sugar, and execute, in a word, all the acts

necessary to digestion of diverse varieties of alimentary substances.

The important point is to bring back fermentations to their physiological limits, to stop and to limit those which are particularly noxious.

All tainted meats and strong cheeses must therefore be eliminated from food whenever there is cause to diminish the risk of auto-intoxications.

Inasmuch as food furnishes an environment the most propitious to secondary fermentations and to putrefaction that its mass is more considerable, that it has been less completely impregnated by the gastric juice, that its digestion is slower and its stay in the intestines lengthier, it is well to reduce this food to the minimum and as finely divided as possible. Hence the good effects of richly azoted, easily masticated food, as eggs or hashed meat.

Vegetables, especially green, augment the intestinal mass and redder easier noxious fermentations. Nitrogenous food in excess furnishes an abundant field of culture to the microbes of putrefaction.

Milk is a good diet whenever it is necessary to diminish the intestinal fermentations. It hardly introduces toxines, it is easily digested. Hence its good effects in diarrhœa, and especially chronic diarrhœa.

If, therefore, in the same diet, the nitrogenous food be diminished, if milk be given as food and as drink, if purees of dry vegetables be recommended, the conditions will be such that with a mixed diet answering to all the exigencies of nutrition and of organic expenditure, the sources of auto-intoxication, alimentary in their origin, shall be reduced to a minimum.

It is, in its principal features, the vegetarian diet lauded by Dr. Dujardin-Beaumetz.—*N. Y. Therapeutic Review.*

#### EXPERIMENTAL INVESTIGATION IN THE GIBBES-SHURLY TREATMENT OF PHTHISIS.

By HENEAGE GIBBES, M. D., Ann Arbor, Mich., Professor of Pathology in the University of Michigan.

I have thought it may be of interest to the society to have an account of a series of experiments, which I have made in a case of tuberculosis treated in the manner Dr. Shurly and I originated, with a view to determining the effect of the sputum when inoculated in susceptible animals at different stages of the treatment. I also wish to give a short account of another

case now undergoing this treatment, and some experiments I have made with cultures of tubercle bacilli.

The first case was that of an assistant professor in the University of Michigan, who came to me for treatment on the 4th of February, 1892. The apex of his left lung was affected and also his throat, and this condition was diagnosed in Germany more than a year before he came to me. The sputum contained numerous tubercle bacilli. I commenced the treatment with an injection of iodine, and kept it up for a week, and then gave gold for a few days, and then alternated them, gradually increasing the quantity, but never during the whole treatment giving more than twenty minims at a sitting. The injection was given every day with one or two exceptions.

At the end of February there was a decided gradual improvement, and the expectoration had diminished in quantity. The tubercle bacilli were also fewer in number. The improvement continued steadily until March 7, when he caught cold, and the expectoration increased again, and so did the bacilli, but only for a day or so. On the 14th of March he felt much better. The expectoration was much less, the bacilli fewer in quantity, and his voice was very much improved. He could talk for three hours without feeling his throat. This hoarseness had been his chief trouble, together with his increasing weakness. The improvement went on through April, and on the 29th I could only detect four tubercle bacilli in one specimen of his sputum. Soon after this they disappeared altogether.

During May and June he gained in every respect, his weight increasing five pounds in two weeks. I carried on the treatment until the 13th of July, when he said he felt perfectly well and required it no more. I gave during this time cod liver oil and ammonia citrate of iron internally and Karlsbad salts as necessary.

He resumed his work at the university on the 1st of October, 1892, and carried it on without feeling any trouble from his throat, and his voice had almost recovered its normal character. In January, 1893, he was appointed professor in the State University of Colorado, and left at that time to fill the new position. He caught a bad cold going there, from which he recovered without any untoward symptoms, and wrote to say he never felt better in his life or more capable of carrying on his work. Last summer he was thrown from his horse and had his leg broken, and I told his brother when writing to him to suggest his taking a tonic for a time. He wrote back to say that his brother had better take it himself, as he had no need of any medicine.



When I commenced treating this case, I determined to see what the effect of the treatment was on the sputum, as regards its power of affecting susceptible animals. With this view I inoculated two guinea pigs with sputum at the commencement of the treatment. One died in a short time from septicæmia, the other in one month with a large abscess at seat of inoculation, enlarged glands in the inguinal region, and tubercles in the lungs, liver and spleen.

A month later, March 4, I inoculated two more guinea pigs with the fresh sputum. One of these died on the 19th of April with tubercles in the lungs and spleen, but with no open sore at the seat of inoculation. The other was killed on the 29th of April and found in a similar condition. The third set were inoculated on the 16th of May, and both were killed on the 28th of June. One of these had a chronic abscess at the seat of inoculation, which did not communicate with the surface. The lungs were free from tubercles, also the liver. The second guinea pig of this series showed no signs whatever of any departure from the normal. At the end of May and twice in June I inoculated guinea pigs, which I kept for from six weeks to two months and then killed, and found no morbid changes in any of them.

From these results I gather four months of our treatment had succeeded in rendering the sputum from this case innocuous.

I will now give a short account of another case, which I saw in consultation with Dr. William Wood, of Grand Rapids. He first sent me the sputum for examination, and I found it loaded with tubercle bacilli, and from the character of the sputum I judged it was a favorable case for our treatment.

I saw this patient with Dr. Wood on the 9th of December, and his condition was as follows: He was in charge of a trained nurse. He could not speak, except in a whisper, and he was so weak that I could not raise him up long enough to examine his chest properly. The examination could not be thoroughly made, as he was in such a condition of exhaustion he could bear very little interference of any kind. His temperature was 101 deg., pulse 120. He was expectorating about seven ounces of pus in the twenty-four hours. His family history was bad, and he was almost reduced to a skeleton.

Treatment was commenced on the 12th with five minims of the gold solution. This was followed by slight headache, and the same the next day, but not after this. The gold was gradually increased to ten minims, until the 19th, when five minims of solution of iodine was given. This was followed by nausea and vomiting, but this did not recur on the following

day. The iodine was continued until the 21st, when I received my first report from Dr. Wood and some fresh sputum. On examining this I found a marked diminution in the number of the bacilli. The expectoration was also reduced to three and three-fourths ounces in the twenty-four hours. Temperature was normal most of the time, but twice rose to 100 at night. Dr. Wood, in his letter, said: "The cough no longer disturbs his sleep, he raises without difficulty and is exercising freely about the house." The next report, up to the 27th of December, showed the expectoration to be three and one-half ounces in the twenty-four hours, temperature normal during the day, and 99.2 at night. Doctor Wood said, in his letter: "The change of the patient for the better is in every respect remarkable. His speech is much improved, and he feels able to come down town." January 5, expectoration two and one-half ounces, temperature normal. Doctor Wood said: "He is much improved in strength, voice and general appearance, and the other day took a three or four-mile ride without harm." On the 13th of January the report was: "He is looking better, has more color, eats regularly with the family, and plays on the flute with considerable strength." The improvement in every way continued until the 30th of January, when I saw him again and examined his lungs. The right apex, which in the hurried examination I made at the first visit seemed to me to be in a state of consolidation, had cleared up and air was freely entering. The left apex was the seat of old mischief, and contained a small cavity. He had been steadily gaining strength and weight. The sputum showed throughout a steady diminution in the number of tubercle bacilli until the last examination on the 28th of January, when I could only find three bacilli in one specimen and none in another, and those I did find were poor, half-starved looking specimens. Doctor Wood will probably give a full report of this case at the annual meeting of the State Medical Association.

I will now mention some experiments that I have made with cultivations of the tubercle bacillus. I have been growing three series, all of which were originally obtained from the lungs and not from the sputum.

Series A has been growing now for about five years, and in March, 1893, had reached the thirty-fifth generation. With this I inoculated six guinea pigs in March, 1893, and killed them in August of the same year, and in not one of them was there any morbid change or any sign of the site of inoculation. Before inoculating these animals, I made a number of cultures from the flask the guinea pigs

were inoculated from, and they are growing now luxuriantly, although they have never had any special temperature, only the ordinary room heat. I made a careful microscopical examination of the organs in each case, and found nothing abnormal in any of them.

I repeated the same experiment with series B, which had been growing a little over three years, and had reached the twenty-seventh culture or generation, and I had precisely the same results.

Series C was not quite so old and had reached the twenty-third generation, when used for inoculation, and in two out of the six guinea pigs, two and one-half months after the inoculation, I found a sore at the seat of inoculation which communicated with an abscess in an enlarged gland. There were no morbid changes, however, in the organs of these two guinea pigs, or in those of the other four used in this experiment. All these series were tested at different times at an earlier stage of their growth, when they were found to be capable of producing morbid changes in the animals inoculated.

Similar observations have been made by Dr. Dixon, of Philadelphia, and others with the same results.

I grew these bacilli in different culture media at different temperatures, and I now have luxuriant growths of tubercle bacilli which are absolutely unable to produce tuberculosis. I would ask the society if this fact is susceptible of the same explanation which proved the so-called jequirity bacillus to be nothing but the hay bacillus, which, falling into an infusion of the *abrus precatorius*, found a suitable pabulum and grew luxuriantly therein, or if not, what is the explanation?

In 1882 I put on record a fact which seems to me of considerable importance, that in cases of acute miliary tuberculosis, when the the age of the patient, duration of the disease, clinical signs and symptoms and post-mortem experiences were precisely similar, the microscope showed that the lesions in the lungs were of two distinct kinds, and these two kinds were never found in the same lung. One of these forms was a typical reticular tubercle, the other a purely inflammatory change with no structure, and I further showed that tubercle bacilli were never absent from the inflammatory form; while in the tubercular, cases occurred where not a single tubercle bacillus could be found.

I have examined every case I could get since that date, and each one has confirmed this fact. A number of men have worked in my laboratory on these cases, and we have lungs in which it is absolutely impossible to find a single tubercle bacillus, and they are full of tubercular change. Numbers of

cases are on record where in well-marked cases of tuberculosis no tubercle bacilli can be found in the sputum during life or in the lungs after death. It has been recently stated by a well-known bacteriologist, a pupil of Dr. Koch's, that without the tubercle bacillus there can be no tuberculosis, and I presume that is the view held by many. Now tuberculosis is an infectious disease in the State of Michigan. In what category are we to place these cases, where, judging from the clinical signs and symptoms the appearance of the lungs at the post-mortem and the microscopical evidence we have a case of tuberculosis, yet the absence of the tubercle bacillus proves that it is not?—*Physician and Surgeon.*

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### THE ETIOLOGY OF HÆMOPTYSIS.

By PROFESSOR GERMAIN SEE, Paris, France.

Hæmorrhage from the mucous membrane of the lungs, which is so very interesting as regards its treatment, seems to be less so when its cause is examined. This is a great error. Sometimes, of course, its etiology is quite evident when we find certain signs that prove the existence of pulmonary tuberculosis, but outside of the danger itself that may come from the hæmorrhage, which, by the way, has been much exaggerated, we should endeavor to find out if this bleeding will continue, if it will return again, or be followed by serious consequences or not, or if it is simply accidental.

Laennec was the first to show that hæmoptysis may be only a symptom of tuberculosis or pulmonary apoplexy. Graves divided it into two classes, according as it came from the bronchial or pulmonary arteries. In the present state of our knowledge let us review the etiological distinctions on which the whole interest of the diagnosis depends.

Hæmoptysis has been divided into essential and symptomatic. By the first we understand those that do not depend on any disease of the lungs or other organs. These are rare, and their causes are quite well known. They depend on traumatism, such as the irritant action of certain forms of gas when respired, and on intense cold, which brings about a high tension in the pulmonary vessels. In this class has been arranged supplementary hæmoptysis, which is seen only in women. But all these cases are quite easy to diagnose and establish the etiology, so they need not detain us.

Among the symptomatic varieties the most important is that seen in pulmonary tuberculosis. It may be noticed at any period of the disease, but is most frequent at the onset. A



person apparently in perfect health, but who has had a little dry cough now and then, is suddenly taken with hæmoptysis. Sometimes it is only a sanguinous expectoration mixed with salivary sputum; at other times the patient is awakened by finding his mouth full of blood and red marks are on his pillow. We must not be in a hurry to share his fears, because it may be only a sanguinolent exspuition which must not be confounded with expectoration of blood, for this exspuition is sometimes simply the rejection of matters accumulated in the pharynx, or naso-pharynx, or even in the mouth. An examination of the buccal cavity shows that exspuition is more abundant during sleep, owing to unconscious efforts we make then by a sort of succion. Real hæmoptysis takes a patient suddenly, without any definite cause, unless it be a cold bath or some sudden effort. With a slight cough they expectorate clear red blood, which is mostly liquid and frothy. This expectoration, which is at first abundant, continues for some time, even several days. The blood, which is at first red, then becomes darker by having remained longer in the bronchial tubes. Given these conditions, the fate of the patient remains variable according to the case. Sometimes this symptom may be the only manifestation of disease, as it may not continue, owing to the fibrous transformation of the tubercles. But this is not always so, as this hæmoptysis may be the first stage of phthisis, which, however, may not come on for a long time afterward, even when the first attack of hæmoptysis has almost been forgotten. Then there are cases where the evolution of the tubercular bacilli may go on at once.

The relatively benign character of hæmoptysis makes its diagnosis as to the gravity of the case difficult. If auscultation is practised soon after the attack it can give an idea of the seat of the hæmorrhage in the lungs, but can tell us nothing of its nature. The microscopical examination of the sputum, which alone can decide the question, may not be possible for some time, or may give false results. In most cases the bacilli are not abundant at this stage of the disease, but this must not lead us to think that it does not exist. In all cases of hæmoptysis that can not be explained by some heart lesion, or renal affection, or, again, by some general malady, we should suspect tuberculosis. The frequent absence of bacilli in these expectorations and in those of harmless sorts of hæmoptysis, has led Huchard and others to search for the etiology in arthritism. But this diathesis can not be admitted in hæmoptysis among those who do not appear to be tubercular, until after the careful examination of the chest and sputum for bacilli, and the fact that you do not find them in such blood does not prove that the case is not one of commencing tuberculosis. As we

stated before, it is not usual to find Koch's bacillus in this blood, and it is known that the blood of a confirmed consumptive does not contain bacilli. The absence of physical signs over the thorax is not a proof that tuberculosis does not exist. A case of hæmoptysis recorded by Huchard, where no lesion of the lungs was found at the autopsy, does not prove that there was not some vascular lesion.

Sir Andrew Clark thinks that hæmoptysis seen in aged persons comes from arthritism, and relates the details of two autopsies to prove that no lesion was found in the lungs, nor any cardiac alteration. We may, however, ask if the fact that these patients had rheumatic antecedents is enough to declare this as a cause of the hæmoptysis seen? Duclos (of Tours) and other authors have reported a number of cases of patients who had hæmoptysis and arterio-sclerosis. These writers had been struck by seeing quite a number of cases of hæmoptysis in apparently robust people who were arthritic. On following up these patients it was seen that after a few years they were attacked, some of them by rheumatism, others by arterio-sclerosis, and again others by nephritis. From these observations, we think that a large number of such cases, when there has been hæmoptysis that can not be explained by any chest lesion, are due to some kidney or vascular disease.

Hæmoptysis that come on in maladies of the circulatory apparatus are the next most frequent in order. They may be met at the onset of mitral insufficiency. Peter, indeed, gives it as an initial symptom in such troubles. I have more often seen simple epistaxis in these cases, while I consider hæmoptysis to be rare in other heart cases at first. These hæmorrhages are quite different from those seen later in other cardiac diseases as regards their pathogenesis. It was formerly admitted that they were caused by the increase of pressure in the pulmonary vessels by the action of an hypertrophied heart. But it is not enough to have a stasis—we must have an alteration of the vessels themselves. They, in fact, have lost their elasticity and contractility and end by having partial dilatations. The hæmorrhages that then take place into the cellular tissue cause a lesion of a hard brown appearance and the tissue takes on a yellow-red color, becomes heavy and friable as seen in autopsies.

It is much more common to find that hæmoptysis seen in heart cases is caused by infarcts or embolisms. As a rule the embolus causes a hemorrhagic infarct arising from a thrombosis of the right heart when it no longer can effect compensation. In endocarditis of an infectious nature, the pulmonary embolus causes a metastatic abscess, or else pulmo-

nary gangrene. In ordinary cases the infarct will pass on only to be found at the autopsy. These patients will have a cough of a painful nature that is of considerable diagnostic value when they have not had bronchitis; with this is a pain or a stitch in the side, and twenty-four or forty-eight hours afterward hæmoptysis sets in, which may last for six to eight days. The diagnosis of hæmorrhage from infarctus may be made then from fainting, dyspnœa, expectoration of blood, stitch in side, and physical signs that are found in a person who has had heart disease. It is rarely accompanied by considerable hæmorrhage.

Hæmoptysis in women must be studied apart. They may be divided into nervous, supplementary or complementary. Pulmonary hæmorrhages during the sexual period of a woman's life are rarely independent of a cardiac or pulmonary affection. The relation of these hæmorrhages to the menstrual functions can be established in two ways: In the first, the menstrual deviation can be produced by pulmonary hæmorrhage without any disease of the lungs. These losses of blood from the uterus and the lungs finish by causing the physical signs and nervous troubles of post-hæmorrhagic anæmia. During the interval of the menses the general health remains good and nothing can be detected in the chest showing tuberculosis. These facts have caused us all to accept this form of hæmoptysis as functional in nature. In the second case the blood comes only from the lungs, and none from the uterus, and here this determination of the blood to the lungs may cause tuberculosis at last. We must not forget that both of these cases may exist from phthisis. There are other cases of hæmoptysis that come during pregnancy. These are for the most part attached to some heart disease developed before the pregnancy. Finally, there are cases of hæmoptysis seen at the menopause, which come on every four weeks. There is also a category of hæmoptysis that is seen in very nervous women, as has been well studied by Dr. Lancereaux. These persons are found spitting blood between the menses, which are regular in quantity. We are not, however, justified in making this diagnosis as one of nervous origin until a very careful examination has been made of the chest and sputum. They may, of course, become dangerous if they continue and are very abundant.—*Physician and Surgeon.*

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#### GUAIACOL BY INUNCTION.

It must be especially interesting to intelligent physicians of scientific attainments and a practical turn to watch how unfailingly medical theories and medical practice show a

tendency to converge and mutually support certain demonstrable truths—we call them scientific facts. It matters not whether theories are right or wrong, or that they rest upon insufficient premises, time and clinical observation will finally correct these divergencies, bringing harmony and completeness out of chaotic imperfections. These remarks apply with special force to the use of guaiacol by inunction in the treatment of typhoid fever, recently brought to the attention of the profession by Professor Da Costa, because the clinical facts all go to support and confirm the scientific basis upon which rests the doctrine of cellular-therapy, so strongly advocated by the writer. And it requires no prophetic vision to foresee the ultimate effects which this line of research will exert in the domain of therapeutics, since every step in advance must be in line with the facts already educed in previous numbers of this journal and elsewhere, relating to the association of diseased conditions with the abnormal function of the cell.

To make a long story short, we can account for the favorable action of guaiacol in typhoid fever through its influence upon leucocytosis. Being applied to the skin in the neighborhood of the affected glands, the guaiacol first reaches the inter-cellular fluids, where it acts as a protoplasmic stimulant—if not used too freely—and upon its entering the general circulation this stimulant effect is continued. Used in this manner, the irritant effect of the drug becomes in fact a stimulant to nuclear activity, and the activity of the leucocytes, or Metschnikoff's phagocytes, is increased, which, *pari passu*, increases the sum total of the antiseptic property of the blood. Thus the "natural antiseptic" property of the blood becomes inimical not only to bacteria, but also to bacterial products; the disease is conquered, and the patient lives. The probabilities are that the same results would attend the use of guaiacol applied at indifferent points, differing only in degree; but as advocated, there is no circumlocution, and the resulting benefits are more directly apparent. This is a most important discovery, not so much because another remedy has been added to our already extensive armamentarium for the treatment of typhoid fever, but rather on account of the new channel opened in a hitherto unexplored department of therapeutic science. The explanation here offered seems to dovetail with the researches of Vaughan in relation to the possibilities of introducing a "nuclein-therapy," a subject which is now engaging the attention of the foremost investigators on both sides of the Atlantic, and although no actual reliable data have yet appeared in current literature, there is ample evidence that such will be forthcoming in the near future. A demonstration of the availability of the principles thus far established means



substantially a revolution in our ideas as to the most suitable means for overcoming disease. It also foreshadows a complete rearrangement of our methods of practice in so far as these methods depend upon the mechanical effects of drugs in controlling the symptoms of disordered cell-function. It means that the well-known physiological actions of remedies shall take second instead of first place in modifying defective metabolism.—*American Therapist*.

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#### CHRONIC GASTRITIS AND ITS TREATMENT.

Chronic granular gastritis has a multiplicity of names—catarrh of the stomach, dyspepsia, indigestion, atony of the stomach, etc. In the French text books we find it mostly described as different forms of dyspepsia. Dyspepsia and indigestion are merely descriptive of a functional disturbance, but not of a distinct disease, and we should not consider each disturbance of digestion a separate disease.

*Pathology*.—Ewald says it is rare to find a perfectly healthy stomach after thirty-five or forty years of age. In his autopsies he has only seen two such, and they from persons killed instantly. Chronic inflammation of the mucosa is generally a sequel to repeated attacks of acute inflammation, generally known as indigestion.

The mucous membrane has a yellowish gray or slate color, with deeply injected areas of scarlet or brownish red color, and is usually thickened and covered by a firmly adherent layer of mucus. The portion of the stomach mostly affected is the pyloric, but it may extend to the fundus and even the entire mucous membrane.

The submucous and muscularis may also be thickened, and the latter especially at the pylorus; the disease may cause hypertrophy with stenosis. In severe cases the mucous layer undergoes atrophy to a degree that completely destroys its function. Ewald mentions cases where there was a complete suppression of the secretion of the gastric juices.

Repeated attacks of acute gastritis is one of the most frequent causes of chronic gastritis. It may be the result of swallowing half masticated and partially insalivated morsels of food; this predisposes to fermentation and putrefaction of the stomach contents. Another cause also is carious teeth and inflammation of the gums. Then comes tobacco juice, alcoholic beverages and toxic substances and parasites. Some of the former may circulate in the blood and be excreted by the stomach, such as urea and some of the products of constipation.

Ewald says "chronic stomach catarrh is one of the best nourished diseases in the world, and indigestion is the remorse of a guilty stomach." Some of the predisposing causes are anæmia after dysentery, typhus and typhoid fevers, the acute exanthemata, pregnancy and uterine disease; also diabetes, gout, and chronic affections of the kidneys.

There are many stages between the simple and mucous forms; sharp distinction between the two is sometimes impossible. The initial stages are about the same in the different forms—namely, difficult digestion or chronic dyspepsia.

It is only after the development of progressive atrophy of the gastric mucous membrane that the symptoms of rapid decline of the organism becomes manifest.

The patients usually complain of a dry, pasty or salty taste in the mouth. There is nothing pathognomic about the tongue; it is seldom clean, but usually coated at the base; the papillæ are reddened and swollen; the edges bear the impressions of the teeth. In the morning the coat is thicker than in the evening. The lips are dry and chapped. Belching is frequent. The gas has an offensive sour smell, with a rancid taste. Frequently regurgitation of fluid and food, with sour smell and taste, is present, imparting a burning, scratching sensation along the œsophagus. These symptoms at times result in severe cardialgia and gastralgia. Vomiting is of irregular occurrence; nausea and trismus usually precede it. The appetite may range from slight or moderate to excess, so the patients commit dietetic errors and cause fresh irritation. Soon after eating they feel oppressed and bloated, with a choking, vague sensation, which becomes a slight pain on pressure. They frequently complain of the food remaining long in the stomach, and often describe the vain efforts of the oppressed viscus to drive the food into the intestine. This condition finally results in weakness of the muscular walls of the stomach. As a result of this the carbohydrates ferment, and the albuminoids putrefy. These gases distend the walls of the stomach, and the distention causes pain. Constipation results as a rule. The urine is scanty, deposits urates abundantly, and is at times alkaline. Mentally the patients are stupid, and complain of loss of energy with headache, and morose, irritable disposition. The pulse is small and weak, with frequent irregular action of the heart. The final stage of chronic catarrhal gastritis is atrophy of the mucous membrane. This process may be partial or complete. We observe a progressive loss of secretion until the digestive activity of the stomach is completely lost.

One case I treated was reduced fifty-eight pounds in weight, but by proper diet and treatment she gained flesh and

is still alive, living on spoon victuals, suffering frequent relapses.

Another case was reduced fifty pounds in weight, pulse 140, complete loss of strength; lay in the hammock most of the time, and for days would not eat a single morsel. By proper diet and treatment this man now weighs 208 pounds, and does farm work. I think this case has stenosis of the pylorus caused by the gastritis, which has been progressive seven or eight years.

A third progressed to an unfavorable termination, and the autopsy proved a gastrectasis.

Austin Flint, twenty years ago, was the first to call attention to the relation between anæmia and atrophy of the gastric glands.

The diagnosis is beset by many difficulties. One of the first things to do is to differentiate the different stages and forms of the disease, viz.: simple acute gastritis, chronic mucous gastritis and atrophy of the gastric glands.

The long duration of the disease is indicated by its name. In apparently cured cases the trouble is liable to exacerbations. The slightest deviation from a specific diet may cause a fresh attack. When it reaches the stage of atrophy it is incurable. A large number of cases said to have died of old age really perish from gastric atrophy. Besides the malnutrition at all times renders these patients more susceptible to a series of other poisons, such as tuberculosis and acute rheumatism.

The first point in treatment is to adopt a suitable diet; and here you will find "that what is one man's meat is another's poison." A physician can not pick out a diet for every dyspeptic, but with the aid of the patient's experience. Warn him to leave off what disagrees. There are a few rules that can be applied to every case, as to masticate the food slowly and take good care of the mouth, keeping it clean.

I will now relate my experience with the case which I promised to refer to later. After finding him in the distressful condition given above, I asked him what he craved; he said ice cream. I had this made with cream in the milk and nine eggs to the gallon. After complete lavage of the stomach with a tube I gave alternate dishes of ice cream and junket, made with essence of pepsin, every three or four hours. I gave no medicine, except occasionally alterative doses of calomel. He has lived on ice cream for eighteen months, five quarts a day.

This brings us to the strictly medical treatment of gastritis. Electricity and strychnia are of the utmost value in the atonic condition. Hydrochloric acid is one of the best anti-ferments we have, and forms the acid albuminates essential for

peptonization. Ewald says, "never give pepsin until you think the peptic glands are destroyed."

Among the stimulants of the glandular secretion, bitters and carminatives are of value in certain cases. Purgatives are necessary in most cases, but we had better use mild laxatives, and as few times as possible, so as not to establish a habit.

The different mineral spring waters are very valuable in many of these cases with a constipated condition. Lavage is a valuable remedy in fermentation and decomposition of the stomach contents, where there is atony with a tendency to dilatation.—*Indiana Medical Journal*.

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#### SYPHILITIC CHANGES IN THE BLOOD.

With a view of determining the causes of the paleness of the skin and mucous membrane observed in patients affected by syphilis, especially before the outbreak of the exanthem, and frequently after the lapse of years, Prof. Neuman and Dr. A. Konried have systematically examined the blood in two hundred cases of syphilis, and in one hundred and sixty of them this was done repeatedly. The results of the examination were shortly as follows: The quantity of hemoglobin diminishes even in the first stage 15 to 30 per cent. The diminution remains constant at the commencement of treatment; with the number of inunctions, or under the use of other anti-syphilitic treatment, the hemoglobin returns to its normal amount. Older untreated cases of secondary syphilis constantly show a diminution of the hemoglobin. This diminution varies from 45 to 75 per cent. The action of anti-syphilitic remedies is here plainly observable in the return of the hemoglobin to a normal quantity. The low amount of hemoglobin is characteristic of tertian syphilis. The treatment here brought about an improvement in the hemoglobin, but not to the normal. As regards the red blood corpuscles, the primary disease did not reduce their number in proportion to the hemoglobin. With the development of constitutional syphilis they diminished to a third of the normal number; under treatment they returned to the normal. Too large doses of Hg. diminished them again. Untreated secondary forms invariably showed a diminished number of red blood corpuscles, but treatment restored them to the normal amount. In tertiary forms the average proportion was four millions. There is therefore a diminution, but anti-luetic treatment restores them completely, whilst in the same cases it does not altogether restore the hemoglobin. The number of white blood corpuscles increases parallel to the diminution in the number of the red,



and inversely diminishes with increase of them. These investigations were to be continued in part *pari passu* with the determination of the specific gravity of the blood, as thereby many of the observations would be widened or completed. According to the views of the authors, for the future the qualities of the blood must be taken into account in regard to the symptomatic treatment of syphilis, as the severity of the disease and the action of remedies will be thereby better judged of and better under control.—*Indiana Medical Journal*.

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#### SALOPHEN, A NEW ANTI-NEURALGIC AND ANTI-RHEUMATIC.

In an article in the *Deut. Med. Woch.* No. 18, 1893, Dr. Edmund Koch writes as follows:

“All reports speak in satisfactory terms regarding the prompt action obtained with the drug in acute articular rheumatism. In doses of 3 to 5 grammes or at the most 6 grammes pro die it rapidly diminished the fever pains and swelling and in laudatory terms it is pointed out that in this affection it has the same action as salicylic of soda and salol, but is preferable to them on account of its tastelessness and the absence of disagreeable after effects. In older cases as well as those which have become chronic and have persisted for many years and in arthritis deformans it is frequently ineffective, but may be alternated with advantage with other remedies, the more so since it sometimes relieves the pains, at least at the beginning. The dose here varies from 4 to 6 grammes pro die.

“As in the fever of acute articular rheumatism salophen exhibits its antipyretic effects in other febrile affections in doses of 1 to 4 grammes, according to the severity of the case. Its antiseptic action, which has been especially tested in vesical catarrh, seems to be slight. The chief domain of the remedy, however, is the large field of nervous diseases of every kind, neuralgias, such as sciatica, pleurodynic intercostal neuralgia, neuritis hemicrania, odontalgia, as well as other painful affections. In mild cases a dose of 0.75 grammes is effective; in the more severe, larger doses up to 3 or 4 grammes must of course be employed. We observed only a few cases of nervous diseases in which it failed.

“The remedy is best administered in the form of powder, in doses of 0.75 grammes. It is once more emphatic that owing to its tastelessness it is readily taken and that in doses of 3 to 5 grammes, which are amply sufficient, it is devoid of any after effects.”

Dr. W. S. Carter, after experiments (*Univ. Med. Mag.*) with the serums of man, dog, horse, cat and sheep, finds that the human serum injected into rabbits is the most toxic and actively globucidal. When injected rapidly into the veins, it causes death in a very few minutes, the corpuscles being diminished to one-half or one-third their normal quantity. When injected slowly, death comes on much later, the corpuscles being reduced to one-fifth the normal. Upon dogs, human serum has neither a toxic nor a globucidal effect. On frogs, both effects are marked. The serum of the horse is neither toxic nor globucidal to rabbits. Dogs' serum is toxic when injected rapidly into the veins of rabbits. In some cases death comes on with slight diminution of red blood corpuscles, while in other cases recovery occurs even after the use of 30 cc., and there is but slight alteration in the number of corpuscles. The serum of the cat is neither toxic nor globucidal to the rabbit. The serum of sheep is not toxic or globucidal to cats. Heat destroys toxic and globucidal qualities. The toxic and globucidal qualities are not inter-dependent.—*Medical Standard*.

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## SURGERY.

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### SENILE GANGRENE.

By DR. JNO. T. MCSHANE, Indianapolis, Ind.

I was called on the 7th day of April, 1881, to see W. M., aged seventy-five years. He was suffering from a severe pain of a burning character on the dorsum of the foot, near the toe. On the side of the second toe, near its metatarsal articulation, was a dark blue spot, slightly elevated, and about one-fourth of an inch in diameter. The skin adjacent to this, and extending toward the instep two or three inches, was swollen and red, resembling an erysipelatous inflammation. The spot gradually enlarged and extended to the third toe. On the 6th day of May I removed the second and third toes at the metatarso-phalangeal articulation. In a few days the gangrene appeared again, and spread so that on the 26th day of May about one-half of the foot was invaded. At this date Dr. J. A. Cominger saw the case with me, and the leg was amputated about midway between the knee and ankle-joints. The delirium and pain from which the patient had suffered entirely disappeared, and the patient did well until the third day after operation, when the flaps became gangrenous. The gangrene advanced for a few days and extended up the leg on the inner

side about one and a half inches, and on the outer side three-fourths of an inch above the stump. A line of demarcation was formed, and in due time the affected parts, including all the structures, had sloughed, leaving the tibia and fibula exposed. The patient was comfortable, and the healing process was fairly rapid. The ends of the tibia and fibula were exposed, but fearing that amputation might excite sufficient inflammation to cause a recurrence of the gangrene, I decided to await developments. In about five weeks after the operation the ends of the tibia and fibula were found to be loose, and slight traction removed them, leaving a granular surface over the ends of the bones. This natural amputation removed nearly three-fourths of an inch of each bone, leaving no part of the tibia and fibula uncovered. From this time on there were no untoward symptoms, and the stump was finally covered with integument. There was marked calcareous degeneration of the arterial walls, which, no doubt, was the cause of the gangrene. Patient had seven years of comfortable existence after this affliction, and died of senile dementia about eleven years after the operation.—*Ind. Med. Journal.*

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#### A BLOODLESS OPERATION FOR HEMORRHOIDS.

By THOMAS H. MANLEY, M. D., Visiting Surgeon to Harlem Hospital, New York.

As hemorrhoidal diseases of the rectum and anus are very common, and very often lead to very grave disturbances of the whole system, any line of treatment which will relieve or wholly subdue them, without any serious inconvenience, or without danger to life, will be welcomed by the profession.

At the beginning, it may be well to consider for a moment, what we understand by the term hemorrhoids. From the etymology of the word we expect to find blood tumors; but in strict truth, in very many cases of so-called hemorrhoids or piles, the vascular system is totally devoid of any implication whatever, the small neoplastic formations which present themselves along the base, annular rim or roof of the anus and rectum, being histologically purely adenoid, papillomatous, or vegetative. It is important that the anatomical distinction be made clear in this instance, for the treatment about to be commended applies, especially and almost solely, to those anal tumors which are, or were, entirely dependent on a diseased condition of the hemorrhoidal veins; in other words, those which are of a venous origin only.

Another important question arises with respect to the relative frequency of these anal varices, designated piles.

Are anal varices, dilation of the veins, or those tumor-like

formations, either internal or external to the external sphincter, essentially a pathological condition; and, as such, in all cases, does it require active, radical measures for its abolition?

Very naturally our course will be determined largely in those cases by a definite answer to this question.

If piles are all superfluous, neoplastic excrescences, then there can be no question as to our course in all cases.

During the past five years, I have made an examination of a very considerable number of supposed healthy recta in the living, and in the dead-house have carefully inspected, under good light, a large number in the cadaver. It was found that in both, more than 50 per cent. had venous varices of the rectum. Many of the living, in whom varices of large calibre were numerous and extremely turgid, had never suffered from piles in any form, that they were aware of.

Therefore, it seems to me that the hemorrhoidal tumor is rather a physiologically degenerative condition in man, which in very early and late life is a source of no inconvenience; but, which, at middle age, is often attended by or associated with such complications as to render it a distinct pathological lesion.

This view is further supported by the fact that cutting out, injecting or ligating off sundry hemorrhoidal masses, will not in all cases cure hemorrhoidal disease. The varicose state of the upper rectal vessels remains, and nothing is wanted to promote their return but the exciting circumstances which caused their irritation in the beginning.

#### COMPLICATED HEMORRHOIDS.

Diseased hemorrhoids may be divided into three principal classes.

1. Inflamed hemorrhoids.
2. Ulcerating hemorrhoids.
3. Bleeding hemorrhoids.

Besides, we say, internal or external, according as to whether they are without or outside the external sphincter, or internal to it.

When internal medication has not succeeded, and when palliative, topical applications have failed to afford permanent relief in chronic hemorrhoids, in their radical treatment by the *bloodless* operation, the same fundamental principles with slight modifications apply to all three classes.

The advantages of the bloodless operation over other surgical measures in treatment are:

1. The operation may be performed with a less number of assistants, and is very simple in its technique.
2. As there is no division of the tissues, the dangers of infection, of abscess, ulceration and fistula are eliminated.



3. There is no danger from the immediate loss of blood during operation, or of serious secondary hæmorrhage.

In all cases, the evening before operation, the patient should have the colon well cleared of all fecal matter by a brisk purgative.

In the morning, when everything is in readiness, the patient should be given from two to four ounces of whiskey, the quantity to be gauged according to previous habits, its effects, etc.

After having cleansed, shaved and scrubbed the integuments over the ischio-rectal fossa, we are prepared for the first step in the operation, which is effective. *Cocainization*, hypodermically applied. Local analgesia, when practicable, is much preferable to pulmonary anæsthetics. Our patient is more manageable, and there is no spurting of the fæces over the operative field, during manipulation.

Cocainization completed, the next and most vital step is complete and thorough *anal dilatation*.

Without this being efficiently carried out, all else is a failure. But, to be painless and safe, it must be gradual and steady, or we will rupture the muscle and leave our patient incontinent. In chronic old cases wherein, owing to malnutrition and interstitial changes in the sphincter, it has parted with its elasticity, laceration is very easy, if we do not exercise caution. Thorough anal dilatation accomplishes two purposes of great importance.

First, it opens widely the anal portal, and so paralyzes the levator ani that the lower fourth of the rectum—the part always implicated in hemorrhoids—prolapses through the open vent, when it can be most minutely inspected and radically treated. This, however, is of minor importance, compared with the profound effects which dilatation produces on the rectal disease. It is not material whether the hemorrhoids belong to the inflamed, intensely itchy, or irritable type; this stretching exercises a most salutary influence on them.

The third step, in simple hemorrhoids, will be the separate treatment of each tumor by forcible pressure-massage.

Before this is commenced, the entire cluster should be wiped clean and dry and be then freely mopped with cocaine solution.

Now, each hemorrhoid is separately seized close to its base, firmly, between the tip of the thumb, index and middle fingers; first, put on a moderate but full stretch; then twisted, and finally, so completely crushed that it is reduced to a pulp, and none of the investing tunics remain, except the mucous membrane and its under stratum of fibrous tissue. When this

has been completed, the entire mass is again pressed up, inside the sphincter; a suppository of opium introduced, a pad of bandage applied, when the patient is returned to bed. An active but painless inflammation follows; but, as a rule, within two or three weeks, resorption and atrophy have so reduced the vascular masses that nothing now remains but their shrunken, diminutive stems.

The ulcerative and hemorrhagic varieties, along with cocainization and dilatation, must have superadded a special therapy appropriate to each.

Since January of this year, thirty-two cases of hemorrhoidal disease have come under my care, in the hospital and outside.

Many have come to me who feared anæsthetics, and others who were averse to having any cutting operations performed. In all, the permanent results have been eminently satisfactory, and from what previous experience that I have had with this procedure there is no reason to believe that the cures will not be as durable as those effected by other more sanguinary measures which are not without danger in themselves, and are sometimes followed by the most lamentable consequences.

Of my latest series of cases, 27 were men and but 15 women. Fourteen were cases of simple, chronically inflamed hemorrhoids, 9 ulcerating and itchy, and 9 bleeding. Four of the female cases were of the bleeding variety. Of the ulcerating type, in six of them there was a well-marked tubercular cachexia.—*International Journal of Surgery*.

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#### TO BEGINNERS IN LAPAROTOMY.

Dr. F. Byron Robinson offers the following practical suggestions to laparotomists:

1. Remember it is criminal to learn to do laparotomy on a patient.
2. Do not attempt to do laparotomies in private houses and with no nurses.
3. Before doing any laparotomy be sure to study under a master, and assist him if possible, so you can see the pathology in the abdomen and how he removes it. Ask him to allow you to tie a knot once in a while. Never lose the chance of assisting in or witnessing a laparotomy.
4. Learn the after-treatment. Half the battle is with the intestines.
5. Study carefully the abdominal and pelvic viscera of the

cadaver. Study as many cadavers as you can. Never lose the chance of doing a post mortem or attending one. Study the dog's viscera.

6. Be sure to make systematic experiments on dogs' abdominal viscera. Always do the autopsy on your dogs yourself. Note what damage to the peritoneum your manipulations did. Observe what peritonitis really is.

7. Be clean without chemicals. Learn to use very few instruments. Beginners should always invite a laparotomist friend to be present.

8. Be careful of promises.—*Medical Age*.

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#### CATHARTICS IN PERITONITIS.

Dr. H. M. Richardson (*Bost. Med. and Surg. Jour.*) states that the theoretical action of cathartics in peritonitis, as given by various men, consists in an absorption and removal by intestinal drainage of the toxic products of certain micro-organisms, which, multiplying in or near the peritoneal cavity, endanger life. He does not object to carrying out this theory after the appendix has been securely tied, or after it is clear that there is no danger of rapid extravasation; but in the first forty-eight hours of appendicitis he looks upon the administration of salines as extremely dangerous and as a not infrequent cause of general peritonitis and death. The reasons for this lie in the pathological conditions that exist in a very considerable percentage of cases. If, in a given case, there is perforation in an appendix of large lumen, salines, by liquefying the fæces and increasing peristalsis, will cause an immediate and almost invariably fatal extravasation. In such a pathological condition, which if not infrequent, the use of cathartics before removal and ligation of the appendix must be and is attended by most fatal consequences. There is the same objection to the use of salines in gunshot wounds of the intestines, in perforations of typhoid fever, or in perforating ulcers of the intestinal tract generally. If the appendix has been tied off, or if the peritoneal cavity has been walled off with gauze, or if there is a firmly localized peritonitis, he does not object to cathartics and uses salines freely. In a completely established general peritonitis, from whatever cause, with distention, vomiting, and obstipation, salines accomplish absolutely nothing. To produce intestinal drainage after abdominal operations salines are most excellent. They have their use in the very beginning of peritonitis in which there is no question of extravasation. He believes the future use of salines will be confined to these conditions.—*Medical Standard*.

## THE DIAGNOSIS OF VESICAL NEOPLASMS.

By J. BLOCK, M. D., Kansas City, Mo.

The tendency of the students in modern medicine to extricate it from a palpably erroneous subjectivity and place it upon a higher plane of a proximately exact objectivity, as illustrated by the labors of Lorvisart, Skoda, Laennec, etc., in the region of the thorax; Garcia and Turck in the larynx; Helmholtz and Graefe in the eye; Nitze, Fenwick and de Rocher and many others in the various specialties, whilst worthy of the highest commendation, must nevertheless impress even the more enthusiastic with its limitations. It is an ideal still beyond our reach, and the practical physician must content himself, accepting things as they are, striving and hoping for a more glorious future.

That the ignorance, stupidity, mendacity, fancy, etc., of the patient often leads into error can not be gainsaid; but I am quite sure no conscientious clinician would ignore the history, etc., of a given case, even in those departments where physical examinations have attained their highest development.

It would be manifestly impossible to be unerringly accurate in every instance should he depend upon objective examinations solely; per contra, he could be doubly culpable should he rely entirely upon the subjective statements of the invalid. Only in one department, perhaps, could those properly qualified dispense with a history, and even here there might, in an exceedingly small majority of the cases, be an occasional embarrassment; indeed, in the vast majority of instances the history might prove misleading. It would be superfluous, perhaps, to state that I refer to the skin.

I would not underrate the value of the sound and the great advantages of the cystoscope since its recent improvements, consequent upon extended study and observation as instruments of precision in the investigation of maladies of the urinary bladder. Indeed, in some instances the former would be indispensable. Nevertheless I believe it can be asserted without much fear of contravention, that a diagnosis of vesical neoplasms is possible without the aid of either, and that they can be of value only as supplementary means, and quite as often their use is contra-indicated as dangerous, and owing to the technical imperfections of the cystoscope plus complicating conditions not always under control, absolutely unavoidable.

Nevertheless the diagnosis of vesical neoplasms is not only possible, but almost certain, say in at least 90 per cent. of the cases by a carefully elicited history, coupled with a physical examination by unaided senses. This is perhaps in the nature



of a surprise to those who have not familiarized themselves with the subject; and, if my statements prove true, average as high, if not higher, than in other cavities of the economy. It should be understood, however, that this implies the presence of a growth without revealing its nature.

Let me illustrate by a typical case. A male adult, past the meridian of life, consulted me about eighteen months ago, and as is usual in such cases, laid stress only upon the most distressing symptom. A careful interrogation elicited the following symptomatology, though the individual was not remarkable for his intelligence and much reduced by his sufferings. Six years previous to this visit he was surprised by a urinary hæmorrhage without provocation, lasting only a day and subsiding without treatment. A year afterward another hæmorrhage—unprovoked—of somewhat longer duration and somewhat more copious. Then the intervals of apparent health became shorter, the hæmorrhages more frequent and occasionally of longer duration, though not induced by violence, jolting, etc. Finally, during the last year painful and frequent micturition, which had previously been absent, were included in the clinical picture. He now became reduced in flesh and strength and suffered much from gastric disturbance. The urinary examinations revealed blood and pus corpuscles in abundance. The bladder, after evacuation upon bi-manual examination, proved unemptied. Rectal touch did not reveal any nodulated infiltration, but a firm intra-vesical mass was distinctly palpable by the combined method. This was situated immediately above the prostate and in the trigone. Diagnosis: Tumor of the bladder probably malignant. Operation declined. Owing to a misunderstanding patient passed into the hands of my friends, Drs. Drake and Halley. Diagnosis not confirmed. Death of patient. Autopsy revealed epithelioma of the pylorus and another of the bladder, of which I present the specimen by the courtesy of Dr. Drake. This is a resume of the case without that attention to detail which is of so much importance and of which I shall speak later on.

The most important symptom and the very first in order of occurrence in an immense majority of the cases is hæmorrhage, and in order that it may be correctly interpreted must be studied in detail, for this is an event common to almost every form of bladder disease. Very seldom, indeed, is it accompanied by pain, and this only when the growth is situated at the internal meatus, where it acts as an obstruction.

The hæmorrhage is unprovoked, contrary to what happens when due to calculus. Here it is always due to some violence, a fall, undue exertion, a jolting in a vehicle, equestration, etc.,

and yields promptly to rest and is not very abundant. The hæmorrhage, consequent upon the presence of a neoplasm, is not due to violence, is painless, may be abundant and does not yield to those measures usually applicable. It disappears, not as a result of treatment, being capricious in this respect, vanishing as suddenly as it came, to reappear at a day very distant from its first announcement. Gradually, however, the intervals grow shorter until finally it may become almost continuous exsanguination, proving the hæmostatic. In some cases retention, as a consequence of the clotting, is superadded and then all the symptoms of a violent cystitis following in its wake, often the result of surgical interference.

The hæmorrhage, as regards quantity, may be enormous at times, even from a trivial growth; thus from a few slender filamentous projections I witnessed an extremely alarming one in one of my cases.

In another, where an exsanguinating hæmorrhage of three months compelled the patient to place himself in the hands of one of the most distinguished operators in this line, it was my lot to see him expire on the table just as the operation was about being completed, so exhausted was he, though the growth was not larger than a small pea. In other cases it is slight, but always presenting the above-mentioned peculiarities regarding its commencement and progress. The size of the growth bears no relation to the amount of hæmorrhage. The pain, frequency of micturition and purulence, the complex, par excellence of cystitis, usually appear late upon the scene. It may be in consequence of the course adopted as just described, but are almost certain to finally ensue even in the absence of any interference.

If the patient can be observed in one of his hemorrhagic seizures, the manner of the flow is of importance. Usually the latter half of the stream contains the greater amount of blood, the contracting viscus expelling the sanguinary mass very much after the manner of a compressing hand upon a sponge.

Another diagnostic feature of importance if obtainable is the expulsion of particles of the growth which betrays its presence and character when submitted to microscopic examination. It would be unwise in a suspected case to attempt the removal of a specimen, though this is counseled by some observers. I do not believe that it requires any argument to demonstrate the danger of this manœuvre. In a very small minority of cases only will you be so fortunate as to secure a spontaneously-voided fragment.

Now as to the physical signs: Before attempting bi-manual exploration, see that the bladder is emptied. If possible, have

the patient do this by the natural effort, placing the index finger of the right hand preferably—previously well annointed, as should also be the whole contour of the anus, to avoid pain—well up into the rectum, the whole of the opposite hand being placed over the hypogastrium, when it can be proceeded with almost as satisfactorily as a similar manœuvre in the female by the vaginal route. By gently depressing the supra-pubic region, the whole of the viscus can be brought into contact with the palmar and tactile surface of the opposing digit, revealing the presence of any infiltration in the bladder wall by its nodular, indurated or irregular surface or the presence of a pedunculated or sessile growth projecting from its surface internally if of sufficient size. Even negative evidence is of value, for it discloses conditions which render interference of favorable omen.

Thus, with a positive clinical history, such as has just been detailed, the absence of infiltration suggests a pedunculated or sessile growth of moderate dimensions, susceptible of complete extirpation, which would not be attainable with one infiltrated in the vesical wall, and practically the character of the neoplasm is divisible into these two forms. Pain and tenderness are not to be expected even though the growth be malignant; they mean cystitis. The examining finger can also locate the site and general contour, size, etc., of the offending intruder in favorable cases. A very fat belly, of course, offers an impediment often difficult to overcome.

When there is evidence of a residuum occasioned by a large prostate or by the growth itself, a catheter "*en gomme*" may be called into requisition, when it will be found that after the instrument is well into the bladder, as evidenced by an issue of the urine, it glides over something which is not the prostate as it is pushed on; often, too, it is followed by hæmorrhage.

At times a sound may engage the growth on its curve, determining its shape and location. If it is large, this is not possible, the excursions of the instrument being so limited as to suggest the presence of an unwelcome guest; if it is small, its revelations are negative; medium-sized growths are best outlined. But either of these methods had better be avoided, since they are not without danger. The cystoscope, too, may also corroborate what is already established, provided the bladder is freed of blood and pus, which is not always possible.

As stated at the outset hæmorrhage is a symptom common to so many vesical troubles that a brief review and comparison is essential to establish a differential.

The hæmorrhage provoked by a calculus is usually slight

and is always directly attributable to violence, subsiding upon rest in recumbency, though at times it may be very profuse. Recently I examined a case on which two very severe and prolonged hæmorrhages, requiring aspiration of clots, aroused a suspicion of a neoplasm; but careful inquiry showed these to be traceable to over-exertion, riding, etc. The patient, a distinguished old gentleman of our State, was the bearer of a large prostate and a calculus, readily diagnosed by the sound, presumptive evidence being in its favor. The latter was removed by the high operation.

The protracted though slight hæmorrhage of an old gonorrhœal cystitis may prove perplexing, especially since a partial thickening of the bladder wall—pericystitis—might appear corroborative of a growth. But the history of inflammation, coincident with or preceding the hæmorrhage, will set doubt at rest.

The hæmorrhages of a tubercular cystitis usually precede the pain and inflammation, thus resembling like conditions in the lung, the hæmoptysis antedating the bronchitis often for months.

In the majority of cases, however, a primary tubercular cystitis is associated with a similar condition in the epididymis, cord and seminal vesicles disclosed by their nodulation upon the touch; and finally, when the stage of ulceration has set in, the tubercular bacillus decides the question. Hæmorrhage, due to neoplasm of the kidney, by a careful study of symptoms presents an array of facts that usually does not offer many difficulties for solution. The hæmorrhages, though unprovoked and recurring at irregular intervals, do not have a tendency to finally become continuous, but cease, as it is supposed, because of an obstruction of the renal end of the ureter. Often they are preceded by renal crises, simulating renal colic, lumbar pains, etc., and the presence of vermicular clots in the urine, although it must not be supposed that these of themselves are really pathognomonic, for they may be the result of a vesical hæmorrhage.

Another important sign, as pointed out by Guyon and of immense value, is the recent development of a varicocele upon the affected side, due to an obstruction of the spermatic vein. Finally renal ballotment usually shows enlarged kidney. This can be effectually practised with the patient upon the back, the thigh and legs extended, the left hand of the observer slipped under the loin, the right gently placed anteriorly and immediately opposite, and gradually, gently, but firmly, depressed, taking advantage of each succeeding expiration when the ballotment is accomplished by the nether hand, the



one superimposed merely recording the sensations. A little practice makes this easy of accomplishment and of incalculable value.

It is said a varix of the bladder may be responsible for the hæmorrhages; but its existence is denied by some competent observers. When it does occur it is associated with varices elsewhere, notably about the anus and the legs, and the hæmorrhages seem to vicariously substitute the customary ones from the bowel.

A word regarding vesical ulcers. Hæmorrhages are said to be consequent upon and due to ulceration. Indeed, ulceration of a neoplasm is rare. The hæmorrhage is an early symptom long before its disintegration, should that finally occur. The same is true of tuberculosis, the hemorrhage being the early symptom long in advance of the degeneration of the tubercle.

Another feature of interest in neoplasms of the bladder and worthy of consideration is their slow growth even when malignant, and the element of time is not an important factor in the prognosis. Indeed, well authenticated cases of fifteen years or more being on record from the first hæmorrhage to the date of observation, and yet no secondary deposits. This is accounted for on the assumption of the absence of lymphatics, according to Sappey, in the vesical mucous membrane.

I might cite, too, a personal experience of great interest which may prove of advantage to you in the future, as it certainly will to me. This was the case of an ignorant man whose history was not secured with that definiteness that we usually desire in these seemingly obscure affections, and rendered doubly difficult because he was only conversant with a German dialect with which I was not at all familiar. For six months he suffered from irregular hæmorrhages, both from the bladder and bowel, and when seen, in addition to bloody urine, complained of intense lumbar and sacral pains, pain at the head of the penis, some pain and numbness—mark it, numbness—in the anterior, internal and upper aspect of the thigh. The bi-manual revealed a large growth, but it was difficult to say whether it was intra or extra-vesical. The symptoms inclined me to believe that it was both. I had outlined an operative procedure suitable to the case, but failed to carry it into effect, thus to precede the cystotomy by a laparotomy with the lower terminus of the incision somewhat above the upper of the anticipated supra-pubic cut. This would have combined the exploratory with the remedial measure. The latter incision was the only one made, and revealed an inclusion of the bladder wall in the growth, though it was

extra-vesical: two small calculi were also present. The lumbar pains—excruciatingly severe—the anæsthesia and pains in the thighs are recommended for your recollection.

To resume: Painless, irregular hæmorrhages, often with long intervals of freedom, finally growing shorter until they become almost continuous, unprovoked by any exciting cause and not amenable to the usual methods of treatment, pain the result of a cystitis late in the case, coupled with the revelations of the bi-manual, are the cardinal symptoms of a vesical neoplasm when all the other possibilities as just enumerated can be excluded by a careful, painstaking review of the history and physical examination by the unaided senses. It is in the *ensemble* of the symptomatology that we seek a disclosure of Nature's secret.—*Kansas Medical Journal*.

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## GYNECOLOGY.

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### HOW SHALL WE MANAGE SUPPURATIVE SALPINGITIS?

By GEO. HALLEY, M. D., Kansas City, Mo.

In the every-day practice of medicine we meet with cases of irritation, inflammation and suppuration of the Fallopian tubes. It occurs almost invariably in the hands of the general practitioner—the specialist rarely being called on for an opinion until a much later period. A short consideration of a few of the most salient points of a differential diagnosis and treatment of those conditions will be exceedingly appropriate at the present time. I can well imagine the surgical gynecologist who hears these remarks saying, "What is the use of talking about such things now? There is but one thing to do—open the abdominal cavity and remove the ovaries and tubes." The medical gynecologist, on the other hand, will say: "There is but little use in discussing this subject, for I have fewer deaths in my practice where I never interfere or permit interference in a surgical way. I can manage these cases by my manipulations and medications." Neither of these views, however, are entirely correct, both being but one side of the question. It is not the whole truth in either case. Neither does the truth lie in a mixture of the two procedures. What is more necessary than all other things is a clear understanding of the pathological conditions present and common sense applied in the way of treatment.

To show that a purely surgical view of this question is entirely wrong, I have only to refer to the record book of any

general hospital. The fearful mortality rate is an abundant answer to all such inquiries. Operating is a good thing. Operative interference is all right, providing it is done all right and at a proper time. It is then a surgical procedure, a beneficent method of treatment fraught with the greatest good to the greatest number of persons, but done otherwise it is nothing but a slaughter and should be held at law as criminal.

The time is not very far distant when such an instrument as a curette was entirely unknown. Deaths, I believe, at that time were not more frequent without the slightest surgical interference than they are now with all the surgical appliances and antisepsis to boot. These cases at that time were looked upon and spoken of as pelvic cellulitis and pelvic abscesses. The means relied upon by the older physicians were simply those antiphlogistic—hot local applications, free purgation, thorough cleanliness, and opium in sufficient quantities to relieve all pain. How many of these cases made a good recovery under such a course of treatment? Men who practised medicine twenty years ago alone know.

It is true that abscesses formed at times and were opened either within the vagina or the abdominal wall. Its discharge for a longer or shorter period of time was followed by more or less constitutional disturbances, but the majority of them recovered. It is worth while then for us, who with all our boasted knowledge of modern methods and antiseptic procedures, with all the light that modern bacteriological science affords us, to inquire why we are not doing much better than practitioners were before the dawn of this knowledge. It is not enough that we are doing as well with what knowledge we have; we ought to do much better, that fewer of our cases should succumb to malignant influence. In my judgment, the reason of the still high rate of mortality is that no discrimination is being made in the cases that can be operated on with relative safety, and those that can not. That every case of inflammation of the uterine appendages is a proper subject for surgical interference is untrue. The operative interference in the slight inflammatory trouble affecting them is, I hold, the principal cause of the fearfully high death rate we are experiencing.

A simple catarrhal salpingitis, which will result in a recovery if the individual keep the recumbent position for a reasonable length of time, using ordinary antiphlogistic remedies, is certainly not a proper case for the surgeon's interference. These cases come under the notice of every practitioner of medicine. The country practitioner meets them, and he puts his patient quietly to bed, and, if not an enthusiastic surgeon,

he treats her "on general principles," as he aptly terms it, and in a few days, or weeks at most, she has made a good recovery without the mutilation that would have fallen to her lot had she been under the care of the modern advanced surgeon. Nay, she may even become a mother after a severe catarrhal inflammation of the tubes. Such certainly would not have been the possibility had her case fallen into the hands and been entrusted to the care of the advanced surgical gynecologist. She probably would not be dead as the result of her operation, but she would have been mutilated as certainly as such a procedure was possible. She would have been told that she had just escaped a fearful death. All the pictures of death by pyæmia or septicæmia would have been held up to her, and while she may go through life feeling that it was lucky for her that she escaped death, she would feel that she was a mutilated creature, unable to perform one of the special functions of her existence. When, then, is it possible and proper to interfere surgically for the relief of her malady? Clearly not in those cases where any other means less formidable than that which contemplates mutilation of the human organism is possible. It is not a question whether the operation will destroy life or not, but whether a simple interference will not suffice to effect a cure.

What, then, are the indications for abstaining from operating, and when should operative interference be advised?

My judgment is that operative interference should only be urged in cases where pus is undoubtedly present, where a judicious use of mercury internally and antiphlogistic procedures externally have failed to permanently relieve the symptoms. Where, after recovery, relapses continue to recur again and again, and no permanent improvement is effected by any medicinal means. How long this is possible can not be positively stated in numbers of days, weeks or even months. If the accession of the symptoms have been rapid, an operation may possibly have to be urged within the first week. It is rare that this is the case, however, and generally many weeks supervene before the prudent surgeon will decide on a removal of the offending members.

Then there is another class in which there is no question about a large accumulation of pus in the pelvis in which the symptoms may have only been manifest a relatively short time; they have been severe and demand interference of some kind immediately.

This, I take it, is the rock on which most young surgeons split. They reason thus: "If this woman is not operated on immediately, this pus sac will open into the peritoneal cavity, and death by general suppurative peritonitis will result."



Is operative interference the best thing to do to save life? Are we justified at all times and under all circumstances in adopting radical means, even when that radical procedure is the only method of effecting a cure? I think not. Of what avail is it to your patient that you have adopted the proper method of effecting a cure if this method kills her? A man drowning might be readily hauled out of the water by having a pike thrust through him, but he might just as well have died by drowning as die from the wound received that was intended to haul his body out of the water. The spasms of strychnia may be arrested by toxic doses of opium, and the death by opium may be the easier, but it is death in either case. It is not our province to substitute one mode of death for another, but to save and prolong life. Life is sweet to all, and we are not to be the judges of the conditions under which it shall cease exist.

In those cases, then, in which an operation holds out a simple possibility of saving life, I believe it a better practice to aspirate the abscess and repeating the aspiration many times, or, if necessary, opening the abscess externally even at the expense of having a sinus left for months or years. These sinuses can be closed, a future operation can be done, and done at less risk than will be found in many acute cases where large abscesses exist. It can be done at a time when the vitality of the organism is greater and when the operation can be done with relative safety and with success.

Without being tedious, then, I would say in all cases of catarrhal salpingitis no operation should be done. Other means are at hand, as certain to cure and much safer, and while they may give less eclat to the general practitioner as a surgeon, they will reflect far more credit on his judgment and give him a much lower mortality rate. In cases where the abscess is exceedingly large, palliative means should always be adopted until the very best possible state of health has been obtained, and then, and then only, when all other means have failed to close the sinus left by aspiration or incision should the radical operation of removing the sac be attempted. If this line of procedure were carefully followed out I am satisfied the mortality rate would take a sudden drop from what it is at present, and vastly more credit would attach to the surgical branch of our noble profession.—*Kansas Medical Journal*.

## SALPINGITIS AND ITS CONSERVATIVE TREATMENT—RETRO-VERSION OF THE UTERUS.

By H. MARION SIMS, M. D., Professor of Gynecology at the New York Polyclinic,  
Visiting Gynecologist to St. Elizabeth's Hospital, etc.

The patient I show you to-day is one whose history I will go into with some detail, as the case presents some points of interest to the class.

This woman is 30 years of age and has been married ten years, having one child born three years ago. She began to menstruate at the age of eighteen, and has been quite regular in this function ever since. Her general health has been good up to the birth of her child three years ago; and she now complains of a bearing down pain all the time and constipation. Intercourse is quite painful, the pain being felt most severely on the left side of the pelvis.

From this history it is plain that this woman's troubles all date from the birth of her child, and it also evident that some injury has been done to some of the pelvic viscera to account for this trouble. As I pass my finger into her vagina I can feel a slight laceration of the perineum and cervix which, however, is not of sufficient importance to explain her trouble; but as I pass my finger further on into the left cul de sac, and make pressure against that part, I can make out quite a large tumor.

We can thus say that we have in the patient before us a well marked case of salpingitis, which is possibly due to some inflammation of the lining membrane of the uterus and has gradually increased in severity.

Now we have here a case of lacerated cervix, without uterine enlargement, and a more or less recent salpingitis. I shall sew up the cervix and treat the salpingitis according to the most recent procedure, which consists in a thorough curetting of the interior of the uterus, packing with iodoform gauze, and setting up a profuse drainage from the uterine cavity. This drainage will, in the majority of cases, succeed in emptying a cyst of the Fallopian tubes, but in what manner it acts I am not prepared to say, though it certainly has accomplished brilliant results in a large number of cases. Instead then of doing a laparotomy in this case, I shall adopt this more conservative mode of procedure.

Now, this patient complains of great sensitiveness around the uterus. I will first of all get rid of this, as a preliminary step, by applying boroglyceride tampons to the cul de sac on the left side, and while this can do her no harm, it may be the means of doing her a vast amount of good.

The next patient I show you presents a train of pathological symptoms that are very frequently met with at clinics of

this kind. She complains of a constant and distressing back-ache, persistent headache, dragging down pain in the small of the back, and a very obstinate form of constipation.

As I examine this woman's uterus I can readily understand the reason for the existence of these disagreeable symptoms. The organ is somewhat retroverted. In making an examination for this condition I always first ascertain the degree of mobility of the uterus, whether it can be freely moved in a lateral as well as in an antero-posterior direction, and whether it can be lifted out of its position and restored to its normal relationship with the other organs of the pelvis. When we have found out these different conditions we can then determine the amount of relief we can give our patient.

To ascertain whether a uterus can be elevated it is not always necessary to make use of an uterine elevator, and a good many gynecologists do not employ one for this purpose, but in this case, as I do not think we can get sufficient leverage by the finger on the anterior lip of the cervix, I shall make use of this instrument. If there be any adhesions present around the uterus, you can very readily determine to what extent they are formed by passing your index finger within the rectum. Under such circumstances it may be necessary to break these up, and this I am in the habit of doing very easily by means of the elevator, with the patient at home in bed, and under ether. After this operation has been completed she should be kept in bed for five or six days. During this time it is my custom to watch her carefully, and if she complains of any pain or tenderness about the pelvis, I treat her for these symptoms by hot douches, warm anodyne applications and other appropriate measures of relief.

After breaking up the adhesions in this manner, I elevate the uterus a few times to educate it, so to speak, to assume its normal position in the pelvic cavity, and when, after repeated efforts in this way, the uterus can be readily raised without causing the patient the slightest discomfort, I then proceed to use cotton tampons, or a pessary, or whatever I deem best suited to each individual case. If you exercise due care in operations about the uterus you need never be apprehensive of any trouble as a result thereof.—*International Journal of Surgery*.

#### CHRONIC ENDOMETRITIS; TREATMENT BY DRAINAGE.

By JACOB C. RUTHERFORD, M. D., of Providence, R. I., Adjunct Professor of Obstetrics and Diseases of Women in the Medical Department of the University of Vermont.

The conditions present in a case of chronic catarrhal inflammation of the endometrium are enlargement, softening and

congestion of the uterus, increased succulence of and the growth of moss-like vegetations on the uterine mucous membrane, thickening and congestion of the cervical mucous membrane, and not infrequently enlargement, thickening, congestion and dropsy of the tubes. The uterus is usually dislocated posteriorly, there is a congestion of all the pelvic organs, and a thick tenacious muco-purulent discharge from the uterine and cervical mucous membrane.

The general symptoms are lassitude, sleeplessness, loss of appetite, constipation, pain in the sacral region, which is increased by walking or driving, dragging pain in the abdomen, profuse painful menstruation (usually; although the flow may be scanty), and mental disturbance.

Examination through the speculum reveals a relaxation of the vagina, an ill-smelling leucorrhœal discharge, erosion and eversion of the cervix, and retroversion of the uterus. With the sound we find the uterus enlarged and sensitive, and that the mucous membrane bleeds very easily. Occasionally digital examination reveals enlargement of one or both tubes, and tenderness of the ovaries.

The treatment usually adopted in such cases includes rest, tonics, laxatives, hot douches, thorough curetting, tampons bearing either glycerine, boroglyceride, glycerole of tannin, glycerine and iodine or tincture of iodine, and in some cases it is deemed necessary to employ severer methods, such as cauterizing the uterine cavity with nitric acid or caustic potash. I have followed this plan of treatment for years with varying success, but usually the treatment had to be continued for a long time, the improvement was slow, discouraging alike to patient and physician, and I finally discarded it altogether and adopted a plan the basis of which is drainage. To illustrate, allow me to present one of a number of cases:

Mrs. X., twenty-six years of age, has been married nine years, and has borne one child now seven years old; she has had no miscarriages; she came to me complaining that for four years she had suffered with pain in her back and abdomen, leucorrhœa, loss of appetite and strength, irritability of temper, and sleeplessness. Upon questioning her I learned that her bowels were constipated, moving once in three or four days; that she suffered so greatly at her menstrual periods that she was obliged to keep her bed three or four days; that the flow was profuse, lasting from seven to ten days, and that she frequently vomited her food. She was anemic and greatly emaciated. Examination showed the uterus enlarged (depth  $3\frac{1}{4}$  inches); the cervix slightly lacerated, eroded and everted; the left tube was somewhat enlarged, the uterus and both



ovaries extremely tender. The uterine mucous membrane bled freely, although I used great care in introducing the sound. There was also a profuse muco-purulent discharge from the uterus.

My treatment was as follows: The patient was ordered to bed and given a saline laxative. The next day she was etherized, the vagina thoroughly washed out with hot water, the cervix mopped out with 5 per cent. sodium bicarbonate solution and carefully dilated to the extent of an inch. The uterine cavity was then carefully washed with the hot soda solution, and gently curretted with a blunt curette. A large amount of fungus growth was removed, which caused considerable bleeding. The uterus was then filled with a strip of iodoform-gauze (cut  $\frac{1}{2}$  by 1 inch wide); a quantity of gauze was also left in the vagina around the cervix. The gauze was held in place by a dry cotton tampon. There was little pain following the operation, but slight uterine contractions caused some uneasiness, which was relieved by a mild anodyne. Forty-eight hours afterward the tampon and gauze were removed, the uterus and vagina washed with the soda solution and again packed as before. From the third day the patient was up and about her room and suffered no pain whatever. The tampon and gauze were renewed every forty-eight hours during the first week and every seventy-two hours during the second week, when treatment was interrupted by menstruation. To the patient's surprise she suffered very little during the menstrual period; the flow was greatly lessened in amount and lasted but four days. Three days after menstruation I found the cervix contracted to nearly its former size, and I again dilated it. The dilatation was rendered almost painless by first applying the Faradic current—one pole in the cervix, the other on the abdomen—for about ten minutes, which softened the cervix and made it much more easily dilatable. The gauze was again introduced and allowed to remain forty-eight hours, when the patient removed it, gave herself a hot vaginal douche, and came again for treatment. From that time until she was discharged the gauze was introduced twice each week and allowed to remain forty-eight hours each time. At the end of five weeks of treatment I found the uterus normal in size, free from tenderness, no leucorrhœa, and the enlargement in the left tube had disappeared.

She tells me now (four months afterward) that she feels in every way better, and that she is relieved of her constipation, that menstruation is normal, that appetite has returned, and that she sleeps as well as ever. She has also put on considerable flesh, and her general appearance is greatly improved.

The advantages of this plan of treatment are, first, that it removes the danger of puncturing the uterine walls, always present when the sharp curette is used; second, it shortens the time the patient is under treatment; third, the gauze by its presence excites uterine contractions, which lessens the congestion, thereby assisting in reducing the enlarged uterus to the normal size; fourth, the gauze again, by its presence, brings about a thinning of the uterine discharge; and this, fifth, allows it to be drained off as fast as it is thrown out; sixth, as the muscular fibres of the uterus are continuous with those of the oviducts, contractions of the former must necessarily be accompanied by contractions of the latter, and hence any accumulation of mucus in the tube would be carried by that contraction to the uterus and drained off by the gauze; seventh, the cervix remains permanently dilated, which facilitates the flow of menstrual blood; eighth, by draining off the contents of an enlarged tube, we do away, in many cases, with the necessity of celiotomy.

Many cases require curetting with a sharp instrument, owing to the presence in the uterus of fungous growths that can not be otherwise removed, but the majority of cases will yield to drainage. Again, thorough curetting should not be undertaken by one inexperienced in the operation, as there is danger that he may scrape away not only the mucous membrane and a part of the muscular wall, but that he may unconsciously perforate the wall and set up a fatal peritonitis.

When the cervical laceration is so extensive as to demand an operation for its repair, the treatment I have suggested will prepare the parts for the operation in less time and much more satisfactorily than the treatment by douches and medicated tampons.—*Medical News*.

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#### UNCONSCIOUS DELIVERY.

LeBlond (*Four. de Med. de Paris*) related in July a remarkable case before the Medico-Legal Society of Paris. A woman, aged 27, who had been seduced and deserted, was seized with slight colicky pains, but continued to work. In the course of the following night she was attacked with still more severe pain. Thinking that an action of the bowels would give relief, she set upon the chamber utensil; on straining a living child was born. This alarmed her greatly, but she cut the cord with scissors, wrapped the infant in a cloth and walked downstairs, telling the people in the house, in fear and trembling, what had happened. Violent flooding set in. The cord had not been tied. Early in the morning LeBlond saw the patient, and found the placenta

still in the vagina. He extracted it. The mother and child did very well. Had the child died the mother would have been very strongly suspected of murder, especially if she had attempted to defecate in a public privy, in which case the child would almost inevitably have been killed.—*British Medical Journal*:

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#### PRENATAL OF DETERMINATION OF SEX.

Dr. George Abbott, of Hamburg, N.Y., writes: "Last summer I met with two cases near each other very confirmatory of my old-time observations and theory relative to the 'determination of sex,' and seeing a report from Dr. McAllister, of Driftwood, Pa., in point in your number of December 2, 1893, I will at once send them to you. About the middle of May last Mr. L. called to engage me to attend his wife in confinement, which was expected about the 26th or 28th inst., reckoning 280 days from her last menstrual period. In the conversation I learned that their only intercourse had occurred some ten days later, and that no intercourse nowhere near that time, previously nor for weeks afterward, had occurred. On the strength of that assurance, I told him his wife would not be likely to be confined until near two weeks later, and that he then would have a daughter, a prospect that pleased him much, as he then had several sons. I set 280 days from the date he gave me as the time of conception as her time for confinement, and on that date I delivered her of a daughter. Shortly after I was called to attend a primipara, who gave me the following history:

"She was taken unwell October 16, 1892, was married the 17th and believed herself to have conceived the 23d, being about the fourth day following the cessation of menstruation. I diagnosed a case of false alarm, and assured her that her full time would not be up until a week from the following Friday, when she would be confined and delivered of a daughter. On the day predicted I was again called, and delivered her of a daughter. I noticed a report from a doctor in Ohio, whose name and address I have lost, in your journal some months since, also confirmatory of the same theory, viz.: that conceptions just previous to the menstrual period result in boys; and if just after, in girls. I wish more doctors would note and publish their observations when the facts are reliable."—*Med. Record*.

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#### ATROPINE TO DILATE THE RIGID OS.

Dr. E. H. King says (*Med. Standard*) that atropine was used hypodermatically for this purpose by the late Dr. A. Ady, of West Liberty, Ia. Although belladonna, extract and oint-

ment, has been applied to the cervix for this purpose from time immemorial, Dr. Ady has used atropine for many years in his practice, and he states that "it will as certainly dilate the os as it will the iris." I can fully concur in the statement, and believe it to be the most prompt and efficient remedy to inhibit the contractility of the circular fibres of the cervix, thereby favoring prompt dilatation, and thus accelerating labor; 1-100 gr. will generally be sufficient. Its effects will be manifest in from fifteen to twenty minutes. Rarely will a second dose be necessary. The only unpleasant symptom attending its use is the dryness of the mouth and fauces and dilatation of the pupils. Neither in Dr. Ady's experience or in my own has it seemed to favor hæmorrhage or interfered with post-partum contractility of the uterus or with lactation. Possibly delirious excitement may be caused by it in persons peculiarly susceptible to such an effect of the drug, but such cases must be extremely rare.—*St. Louis Med. and Surg. Journal*.

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## Book Reviews and Notices.

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*An Illustrated Encyclopedic Medical Dictionary, being a dictionary of the technical terms used by writers on medicine and the collateral sciences, in the Latin, English, French, and German languages.* By Frank P. Foster, M. D., Editor of the *New York Medical Journal*, Librarian of the New York Hospital, etc. Vol. IV. With illustrations. New York: D. Appleton & Co., 1894.

This volume completes one of the grandest medical dictionaries ever published. In our notice of a previous volume we gave an idea of the vast scope of this colossal work. It is virtually a quadruple work, being an English, a French, a German, and Latin medical dictionary rolled into one. No technical term in the medical sciences has been overlooked. Under the word "opium," the references and definitions cover nearly four quarto pages; under "operation," ten such pages are devoted to a concise description of all operations that have received names. The illustrations are numerous and very clear.

In these days of great activity in all branches of medicine, the writer and reader of medical articles frequently feels the need of a lexicon; and this need arises oftener when foreign languages are used. The encyclopedic character of Foster's dictionary renders that work specially valuable to studious men.



In the 3000 pages of matter contained in these four splendid volumes, the seeker after knowledge can find a ready and un-failing store of information on all subjects whereon a physi-cian or surgeon could desire to post himself. A. McS.

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#### PUBLICATIONS RECEIVED.

Transactions of the American Association of Obstetricians and Gynecol-ogists. Volume V.

Manual of Practical Medical and Physiological Chemistry. By Charles E. Pellew. With illustrations. New York. D. Appleton & Co.

Outlines of Practical Hygiene, Adapted to American Conditions. By C. Gilman Currier, M. D. 1893.

A Manual of Medical Treatment, or Clinical Therapeutics. By I. Burney Yeo, M. D., F. R. C. R. 1893.

Alcoholism and Its Treatment. By J. E. Usher, M. D.

Transactions of the Texas State Medical Association, 1893.

Transactions of the Louisiana State Medical Society, 1893.

The Nervous Affections that May Arise from Malaria. By William Brown-ing, M. D.—*Reprint*.

Zymotic Diseases in Chicago. Sanitary Exhibit of the Illinois State Board of Health, World's Columbian Exhibition, 1893.

Naphey's Modern Therapeutics, Medical and Surgical. Vol. II.

General Surgery, Gynecology and Obstetrics. A Text Book of the Theory and Practice of Medicine. By American Teachers. Edited by William Pep-per, M. D., L. L. D. Vols. I and II.

The Surgery of Gall Stone Obstruction. By Robert Abbé, M. D.—*Reprint*.

A New and Safe Method of Cutting Œsophageal Strictures. By Robert Abbé, M. D.—*Reprint*.

Bacterial Poisons. By N. Gamaleia, M. D. Translated by E. P. Hurd, M. D., Detroit. Geo. S. Davis, 1893.

Traumatic Lesion of the Spinal Cord. By George J. Preston, M. D.

Entèroplexie. Par le Dr. Adalbert Ramaugé, Prof. de Médecine Opera-toire á la Faculté de Buenos Aires. Mémoire présenté et couronné au Con-cours de Médecine Internationales Sud Américain le 20 Janvier, 1893.

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#### Deaths.

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##### DAVID RAYMOND FOX.

Dr. David Raymond Fox, aged seventy-one years and two months, died at his residence at Jesuits' Bend, La., December 29, 1893.

Dr. Fox was born October 14, 1822, at Woodville, Miss., and was the third son of the Rev. Jas. A. Fox and Sara Otis. He received his education at home under private tutors, and in 1842 entered the medical departement of the University of

Louisiana, and was graduated from there in March, 1845. He at once began the practice of his profession, first locating in Warren county, Miss.

During the summer of 1847 he went to Dead Man's Bend, Concordia parish, La., where he remained several months treating the cholera of that year. The next season he was engaged as surgeon on board the steamship Pacific, plying between New Orleans and Central America, where he acquired much experience in the treatment of tropical fevers.

In 1852 he located in Plaquemines parish, where he afterward remained.

Dr. Fox was married in 1856 to Miss Tryphena Blanche Holder, of Pittsfield, Mass.; ten children were the fruit of this union, five of whom survive him.

He served gallantly as a surgeon in the Confederate army from April, 1862, until the close of the civil war; like many others, unselfishly sacrificing his home, his large practice and all he possessed.

He had always been an active member of his profession, being one of the founders of the Louisiana State Medical Society, in which he always took active interest, having served many times as vice president, and as president at the annual meeting at Alexandria, La., in 1886. In 1887 he served as vice president of the Ninth International Medical Congress held at Washington, D. C. He was also a member of the American Medical Association.

A loving father, a devoted husband, a beloved and skilful physician, he leaves a bereaved family and a host of friends to mourn his loss.—*New Orleans Picayune*.

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DR. J. G. HAVA.

HAVA.—On Monday January 15, 1894, at 10:30 A. M., Dr. J. G. Hava, aged sixty years and seven months, a native of Guines, Cuba.

After a life of unusual activity, Dr. J. G. Hava passed quietly away at his residence, 252 Burgundy street, January 15, 1894, at the age of 60 years. In his death the community loses one of her leading practitioners, a man of international reputation, and a man who has excelled at many callings.

Dr. Hava was born in Guines, Cuba, July 12, 1833. He came from a family of physicians. His father, Dr. Francis Hava, was born in Mexico, and his grandfather, who was also a physician, was born in Lisbon. Dr. Hava received his collegiate education at the University of Havana, from which he

graduated with academic honors at the age of 14, with the degree of bachelor of arts. He immediately turned his attention to medicine, and at an early age graduated in dental surgery at Philadelphia. From there he went to Paris, and studied medicine in the famous universities and hospitals of that city, graduating in 1859, with Drs. Borde, deRoaldes and a galaxy of other physicians, many of whom practised in this community.

Completing his course in the French capital, Dr. Hava returned to Cuba, after an absence of eight years, and married Miss Francisca Balbin, a young lady of German descent, who was a member of one of the oldest families on the island, and to whom he was devoted before he left the country. Endowed by nature with an intellect of unusual brilliancy, great power to work, and force of character, his finished education made him a man who would naturally be looked to as a leader in public affairs, and the people of Cuba regarded him in that light. When the trouble with Spain, the mother country, began to take shape he at once stepped into a leading place, and at popular request assumed the editorial chair of a paper that was outspoken in its opposition to the mother country.

He assailed the Bank of Spain with a vigor that won for him at once the admiration of the island and the enmity of the government. When Cuba at last declared for independence Dr. Hava joined the ranks of the insurgents and remained as a leading spirit until the movement was finally overthrown. The war against Spain resulted most disastrously for Cuba, and the leaders of the insurgents were hunted down with merciless cruelty. A price was placed on the head of young Hava if he was taken, dead or alive. Fortunately for him he had been practising for some time and had already displayed that rare ability as a surgeon and physician that characterized him in later life. It so happened that he saved the life of the wife of a Spanish officer, and this was what saved his life. When the Republican party on the island was overthrown and a price placed on the heads of all who had been the prime movers in the revolution, Dr. Hava secured a passport from the American consul at Havana and was smuggled on board of a vessel bound for this country. It was necessary that the vessel be searched by a Spanish officer before leaving port, however, and it so happened that the officer whose wife the doctor had saved from death was the one selected for this duty. The officer recognized Dr. Hava, although he was disguised, but his gratitude was such that he did not take advantage of the recognition, and allowed the doctor to depart.

When Dr. Hava had in subsequent years proved his worth and had been recognized as a leading Spanish-American in

this country he was granted amnesty by the mother country and granted the privilege of returning to Cuba, but he refused the privilege, even to see his aged parents, until the island had become free and independent. When he came to this country he continued to publish a paper advocating the independence of Cuba. This paper was entitled *La Libertad*, and was published in Spanish and French.

Dr. Hava at once rose in the ranks of his profession in this city and soon occupied a leading place in the profession. The public spirit he had manifested in Cuba was not slow to assert itself, and when the 14th of September occurred he became endeared to the people for the part he took in that memorable struggle. His drug store at that time was located at 103 Chartres street, and all the wounded, irrespective of the side on which they fought, were received at his apothecary, where drugs were dispensed, and they were treated without cost. He was on the staff of Governor Nicholls during his first term as governor. An incident that inseparably connects him with the 14th of September is that the last man that was shot, Capt. Gourdain, expired in his arms.

Dr. Hava's loyalty to Cuba never died, and after twenty-four years of exile he was as true to his native country as he was when he took part in the ill-starred expedition that resulted in such disaster a quarter of a century ago.

Up to the date of his death Dr. Hava was an untiring worker in the field of literature. Aside from his contributions to the world of science he was a weekly contributor to *Las Novedades*, the Cuban journal published in New York City. His contributions to general literature were many. One of his works was the life of the late Senor Quintero, which at present is being prepared for a second edition. His contributions to medical science were many and valuable. He was especially regarded as an authority on medical jurisprudence, and in many important cases in court he was asked to give expert testimony.

Dr. Hava was the first man who wrote upon "Beri-Beri," a disease which was imported from Africa, and was unknown to Americans at that date. His treatment of cholera and yellow fever was especially successful, and won to him a large and representative clientele. He was singularly successful, and had he taken advantage of his opportunities he would undoubtedly have amassed a large fortune. Instead, he devoted his life to science and medical research, and the splendid financial opportunities that were offered him at the periods of the great epidemics of this city were allowed to slip through his fingers with comparatively little profit. His whole life was



devoted to science. His researches were productive of many results, and at the time of his death no fewer than seven remedies bore his name.

He was a man of remarkable charity, and no one who sought him for professional advice or for alms was ever turned away. In fact, charity was his most characteristic quality, and it was by that trait that he will be remembered for years to come.

Dr. Hava was born of an old and distinguished Spanish family. His grandfather, the Marquis de Goasacualcos, erected the fort that bears that name at Vera Cruz. He also furnished the lumber that built a large number of the vessels of the Spanish fleet, and maintained the Spanish army for a long period, and he was never repaid for this service, although acknowledged by the Spanish government, and the descendants of the family to-day would be justified in assuming this title. Dr. Hava, however, with the democratic spirit that characterized his conduct in Cuba, never assumed this title.

Dr. Hava leaves a widow and three sons. His sons are Dr. A. Hava, and Messrs. Manuel and Francis Hava. The latter is a medical student.

Deceased also wrote a number of medical works which will be published shortly, one of which is upon the phosphates, a subject with which he was very familiar. He labored long and successfully in the field of experimental science. For twenty years he worked upon an air ship which he thought would solve the problem of aerial navigation and submitted his plans to the Academy of Sciences of Paris, of which he was a member. His report received favorable mention, but the experiments have not yet been made. He also invented a filter, the principle of which was to force the water upward through the rock, as in the case of mineral springs, which, he maintained was the only true system of filtering. This was intended to put a filter in the hands of the poor, for whom his life-long labors were spent. He was one of the founders and principal contributors to the *Athenee Louisianais*.—*Times-Democrat*.

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## State News and Medical Items.

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Dr. J. F. Morris, of Crowley, La., recently spent several weeks in the city attending lectures.

Dr. and Mrs. T. Y. Aby, of Monroe, La., are rejoicing in the advent of a little daughter.

Dr. F. M. Thornhill, of Acadia, went to Baltimore, Md., recently to have an operation performed on his eye.

Dr. J. F. McKinstry, of Gainesville, Fla., was married in this city recently to Miss Nellie Cowen.

Married.—Dr. Irvin A. Pope to Miss Sunshine Bonner, at Tyler, Texas, January 3, 1894.

Married.—On January 24, 1894, near Fredericksburg, in Spotsylvania county, Va., Miss Nolie Pulliam, daughter of Dr. John D. Pulliam, to Dr. C. D. Simmons, of Dutch Town, La.

Dr. R. C. Webb, of Rayne, and Dr. A. O. Clark, of Ridge, La., have been in the city for some time attending lectures.

Surgeon James Gassaway, M. H. S., recently inspected all the quarantine stations on the Gulf coast.

Dr. B. W. Smith, of Franklin, La., accompanied by his sister, was in the city recently.

Dr. J. H. P. Wise, of Morgan City, has been honored by a government appointment recently.

Dr. J. W. Dupree, of Baton Rouge, will leave for Tampa, Fla., Sunday as a delegate from this State to the meeting of the Medical Association there.

Dr. B. Harris, of Bayou Sara, returned recently from Louisville, where he received his diploma.

Dr. Lee George has located at West Monroe.

The following programme was carried out at the Tri-Parish Medical Society meeting, held at Arcadia recently: Slow Fever, Diagnosis and Best Treatment, S. A. Poole, Simsboro, La.; The Humorous Side of Medicine, A. C. Simmons, Lisbon, La.; Endometritis, Diagnosis and Best Treatment, A. Deseay, Ruston, La.; Keeley Cure, Thos. Ragan, M. D., Ruston, La.; Septicæmia, Prevention and Cure, Drs. Day and Willis, Homer, La.; Gonorrhœal Ophthalmia, R. F. Harrelle, M. D., Ruston, La.

O. M. PATTERSON, *Secretary*.

Dr. R. L. Grant, of Texarkana, was in the city recently.

Dr. Henry Dillard, of Shreveport, has gone to New York to take another course in medicine.

The Chattanooga (Tenn.) Medical College, which was established five years ago, graduated 49 students at its recent commencement.

Dr. J. J. Ayo, of New Orleans, was married to Miss Alida Lepine, of Raceland, La., on the 2d of February. The doctor has recently located at 220 Jackson avenue.

Both houses of the Virginia Legislature have passed a bill to regulate the practice of medicine and surgery in that State. This so amends the recent act as not to prevent any physician now legally practising in Virginia from being licensed and continuing to practise without appearing before the examining board.

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“Dr.” Chan Ouan Hing alias Joseph F. Chan, has registered at Detroit under a diploma from the Kwang Joie “College,” Canton, whose contents, translated, are as follows: Dr. Lee, chief examiner for the government, second degree of the rank of wearing peacock’s feathers for special attendance at the Gong Wo College of Physicians and Surgeons. This certificate is for the examination in the practice of medicine as physician, that the practice of medicine may be promoted in order to guard and protect both the exalted and the lowly. Now the bearer, Chan Qan Hing, although young, has sufficient character and knowledge. He was examined at Kwang Joie College of Physicians by Dr. Fond. His learning entitles him to be a doctor, having passed the examination of the second grade of first degree at this college. I therefore encourage him and give him this certificate. He must be kind to the people and use his knowledge to the best of his ability, doing nothing rash in his practice to render futile this examination of our college. This certifies that he may practice where he pleases in the gateways and throughout the cities and the country. No. S. O. D. 362—First month and fifteenth day, seventh year of Kwang Shui, Emperor (1881). (Seal).—*Medical Standard*.

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#### ADMISSIBILITY OF EXPERT TESTIMONY NOT BASED ON PERSONAL EXPERIENCE.

Although it might not be admissible merely to repeat what a witness had read in a book not itself admissible, still, when

one who is competent on the general subject accepts from his reading as probably true a matter of detail which he has not verified, the fact gains an authority which it would not have had from the printed page alone, and subject, perhaps, to the exercise of some discretion, may be admitted. So holds the Supreme Judicial Court of Massachusetts in the case of *Finnegan vs. Fall River Gas Works Co.* (34 N. E. Rep. 523). This was an action against a gas company to recover for the death, by inhaling gas, of an employé of a city water board while in the gas company's cellar for the purpose of reading the water meter, pursuant to his duties. One of the doctors summoned as witnesses in the case testified that the deceased had a period of conscious suffering before death. To be sure, he had not had any experience of this kind of asphyxiation personally or with patients, but his general competency as an expert seems not to have been questioned. Therefore the court declared itself as recited, and said that it could see no sufficient ground for saying that the testimony admitted in the case could be treated as furnishing no evidence of the fact.—*Medical News.*

#### TYPHOID EMPYEMA.

Dr. Weintraud records (*Medical Record*) a case of empyema beginning in the second week of an attack of typhoid fever of moderate severity. The patient was a young man, 19 years of age, and he made a good recovery without operation, although at the beginning of the fifth week he was seized with symptoms which pointed to peritonitis. At the end of the fourth week an exploratory puncture was made, and a syringe full of yellow, viscid, slimy pus was drawn off. Microscopical examination and cultivation experiments showed that this pus contained only a small bacillus, which was recognized as the typhoid bacillus. Seventeen days later, and after the patient had recovered from the symptoms of peritonitis, a second exploratory puncture was made, and similar yellow pus drawn off; it was again found to contain the typhoid bacillus in pure culture. The virulence of the bacilli was tested on both occasions on mice, and the interesting fact appeared that those withdrawn by the earlier puncture were far more virulent than those obtained on the second occasion, two weeks and one-half later. Weintraud points out that the case is additional proof that the typhoid bacillus is a pyogenic organism, and of the truth of the view expressed recently by Valentini and by Lorigo and Pensuti, that bacillus may be the direct cause of the production of empyema as a complication of typhoid fever.—*Medical Standard.*



## HIGHER MEDICAL EDUCATION.

In pursuance of the policy recently announced in the resolution to be presented to the American Medical College Association, the Trustees and Faculty of Rush Medical College have decided to require four years' attendance at college from students who begin the study of medicine this year with a view to graduation in 1898; however, those who have already studied medicine one year or more with a preceptor, so that the four years of study already required will be completed before July, 1897, may graduate after three courses of lectures, as heretofore. To encourage proper preliminary study, graduates in Arts and Sciences from high grade colleges, and graduates in Pharmacy and Dentistry from colleges requiring a proper amount of study and two full courses of lectures will, until further notice, be allowed to graduate after an attendance on only three courses of lectures.

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A board of medical officers will meet Monday, April 16, 1894, in Washington, D. C., for the purpose of examining candidates for appointment to the grade of assistant surgeon in the Marine Hospital Service.

For further information address

THE SUPERVISING SURGEON GENERAL,  
*United States Marine Hospital Service.*

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IMPORTANT PATENT DECISION—THE ALLEN PUMP PATENTS  
SUSTAINED.

Judge Grosscup, of the United States Circuit Court, in Chicago, has just rendered a lengthy decision sustaining the validity of the Allen patents. This decision is the result of a suit brought by Mr. Charles Truax, Chicago, against W. C. Carroll, Burton F. Hales et al., of the Physicians' National Supply Company, for manufacturing and selling surgical pumps resembling those manufactured under the Allen patents.

This is an important decision, and one of considerable interest to the medical profession.

## MORTUARY REPORT OF NEW ORLEANS.

FOR FEBRUARY, 1894.

CAUSE.	White .....	Colored...	Male.....	Female....	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	3	4	5	2	4	3	7
“ Intermittent .....							
“ Remittent .....	4		1	3	4		4
“ Congestive.....	1			1		1	1
“ Typho .....	2		2		2		2
“ Typhoid or Enteric.....	5		4	1	5		5
“ Puerperal .....	1	1		2	2		2
Influenza.....	8		3	5	8		8
Scarlatina .....							
Small Pox .....							
Measles .....							
Diphtheria .....	3		1	2		3	3
Meningitis .....	5	3	5	3	1	7	8
Pneumonia.....	23	29	32	20	33	19	52
Bronchitis .....	13	4	7	10	8	9	17
Consumption .....	31	33	39	25	62	2	64
Cancer .....	5	7	4	8	12		12
Congestion of Brain.....	4	1	3	2	5		5
Bright's Disease (Nephritis) ...	21	10	19	12	31		31
Diarrhœa (Enteritis) .....	16	11	15	12	15	12	27
Cholera Infantum .....	6		4	2		6	6
Dysentery.....	4	3	5	2	7		7
Debility, General .....	2	2	2	2	3	1	4
“ Senile .....	20	9	11	18	29		29
“ Infantile .....	6	5	7	4		11	11
All other causes .....	165	69	131	103	158	76	234
TOTAL .....	348	191	300	239	389	150	539

Still-born Children—White, 18; colored, 17; total, 35.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 22.63; colored, 32.97; total, 25.46.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector.

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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VOL. XXI.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### SO-CALLED "SPONTANEOUS COMBUSTION," OR INCREASED COMBUSTIBILITY OF THE HUMAN BODY, WITH EXPERI- MENTS.

BY ADRIAN HAVA, M. D., NEW ORLEANS, LA.

This subject has occupied the minds of philosophers and scientists for over 200 years.

Different theories have been advanced, but up to date its cause has remained a profound mystery. It is evident that the weight of authority on this subject is not in favor of said phenomenon.

Writers on medical jurisprudence have expressed so many different and contradictory opinions that I have made it my duty since 1880 to investigate, experiment and try to solve this mysterious combustion which for two centuries received no plausible nor satisfactory solution.

My father, Dr. John Joseph Havá, related to me that in 1862, while on one of his professional calls to a plantation named "El Horizonte," on the island of Cuba, he noticed a singular case of spontaneous combustion (so-called). He had been consulted by, and treated, an old negro woman, a slave on said plantation, for a queer form of paralysis. This woman was very corpulent, and had been occupied for a period of more than twenty years in parching coffee for the daily use

of the plantation. A remarkable fact was that she always appeared as if under the influence of liquor, and never perspired in the warmest weather; on the contrary, she complained of feeling cold, and would always be around a furnace.

One morning she was discovered dead and burning. My father arrived in time to witness the fact. The room was filled with smoke, and the odor emanating from the partly charred body had the characteristic smell of burnt human flesh; the parts carbonized and yet in combustion were the thighs, the abdomen and the chest; the ends of the limbs were spared, and the combustible objects around the body had not been damaged. This case, I believe, was reported at the time to the Academy of Sciences of Havana, in a short report, merely stating the facts. The corpse was immediately buried (contrary to my father's request), because the negroes on the plantation became frantic and firmly believed that an evil spirit had appeared in their midst. My father having stated to me that increased combustibility of the human body was really true, but that its cause was unknown, I immediately felt an irresistible desire to investigate this strange phenomenon.

After having read and pondered over the majority of cases on record I made the following observations: That the abuse of alcoholic liquors had been suspected, and that the accumulation of alcohol was theoretically, but not practically, its cause.

This strange combustion had happened in all countries, at all seasons, but more so in winter and cold climates, but is very rare in our days. The victims were fat females, as a rule, and advanced in years, suffering more or less from chronic bronchitis.

These poor creatures were sluggish and drowsy, always complaining of feeling cold, and therefore living in small apartments, badly ventilated, in which a furnace was kept constantly burning, and using besides a heating apparatus commonly called "chaufferette" or foot-warmer, used by the poorer classes in European countries to keep their feet and bodies warm.

This apparatus is a flat vessel, constructed either of wood or metal, perforated on top in order to limit the amount of air



accessible to the burning coals with which it is filled. This limited supply of air produces a slow combustion, agreeable and economical. The victims never called for assistance, or at least their cries were never heard, neither had they defended themselves against the devouring flames, as their hands were spared and not even blistered. This proves conclusively that prior to ignition they must have been either dead or in a state of insensibility. The inflammation and blistering of the skin, said to be found in some cases, would indicate that the combustion had begun before or immediately after death. Their faces and parts of the bodies not carbonized were red and puffy. This redness was attributed to the fire. The combustion in most cases commenced by the trunk and consumed all the tissues where the accumulation of fat was the greatest, and, as I stated before, the extremities were unburnt.

The combustion was very rapid, the body burned with a bluish, flickering flame that could not be extinguished by the first sprinkling of water; on the contrary, strange as it may seem, it would increase it.

If life existed at the time of ignition, this combustion had always a fatal termination.

The carbonized flesh was very porous and light and retained its original shape, crumbling under the slightest touch. Under and surrounding the body was found melted human fat, which is said to burn very readily if ignited.

Criminals have often tried to destroy the bodies of their victims by fire, but seldom succeed, on account of the length of time required and not having at hand the amount of combustible matter to effect their aim.

It is positively known that, under ordinary circumstances, the human body is not combustible, and will not continue to burn on its own account, even if the veins be injected with alcohol and the body steeped for a long time in this fluid.

If one tries to set said body on fire, the alcohol on the surface will burn with a bluish or yellowish flame until the alcohol only is consumed, and the tissues will remain.

It is furthermore stated that in some post-mortem examinations, performed immediately after death, upon drunkards, who had drunk shortly before death from sixteen to thirty-two

ounces of whiskey, brandy, or gin, that in their blood, and even in the brain, alcohol was found in sufficient quantity to be inflammable.

Although I was fully convinced that alcohol had little or nothing to do with this so-called spontaneous combustion, as an act of conscience I continued my experiments upon living animals.

I administered three times a day to twelve young roosters, through a soft catheter, from half to one drachm or more of brandy. These animals were carefully selected, tagged and numbered from 1 to 12, in order to know how long each one would live, and to keep a record individually as to the length of time of intoxication and the effects produced. The average time that they were fully intoxicated from the doses administered was from four to sixteen hours per day.

At the expiration of fourteen months, through careful management, two roosters remained—the rest had died at different periods during the experiment. A post-mortem examination made on the ten that had died was negative as to the existence of alcohol. Not satisfied, and fearing that I would soon lose the last two, I obtained six more and continued the same experiment, but at the end of two more months the two left of the first twelve had died, and no alcohol was found.

By this time four of the last six had also perished, and still I continued with the two remaining, being very careful to prolong their lives. One morning immediately after I had administered them their doses, one was killed accidentally by my horse. I felt greatly disappointed, and not being then at leisure I kept him until evening, when, to my astonishment, I found alcohol in the tissues of the stomach, by smell, taste and inflammability.

How was this possible that alcohol was found in an animal who had only taken it about four months, when in the stomach and tissues of those to whom it had been administered for over fifteen months not even traces could be found?

I was puzzled for several days, but soon came to the conclusion that it could not have been otherwise, since human as well as animal bodies have the power, *while life exists*, to convert alcohol into carbonic acid and water, the only form

under which alcohol can exist in the *living tissues*. The reason why I had found alcohol in my dead rooster was simply that *life had ceased* whilst there was alcohol in the stomach, which had soaked the tissues and remained there more or less diluted. This fully explains why alcohol has been found in post-mortem examinations performed upon drunkards who had taken a large quantity shortly before death.

I also made this and many other experiments upon pigs, rats, rabbits, dogs, etc., too numerous to relate here, but which confirm the statements just made.

From the above observations and experiments, having found the alcohol theory absurd, I asked myself the following questions:

What could have produced in all victims the redness and puffiness of the face, the sluggish and drowsy feeling which simulates so well alcoholism? What made them complain of cold and seek hot furnaces and foot-warmers? What was the cause of the bronchial irritation? Why did said combustion attack oftener the poorer classes, especially corpulent females advanced in years (although males are not excluded), inhabiting badly ventilated rooms? Why should this phenomenon happen at night, and in winter in the majority of cases? How was it that there were no eye witnesses to the ignition? Why had they not called for assistance, or even tried to or defend themselves against the devouring element? Why should water increase the flames instead of extinguishing them? How could the tissues lose so much water and leave the carbonized flesh so porous? How was it that the light produced by the flames never attracted the attention of any one? As a matter of fact, it was the smoke and the characteristic smell of burnt flesh that led to the discovery. Why was it that the surrounding objects were spared whilst the body was mostly carbonized? What caused the peculiar *blue, flickering flame*? Why was this phenomenon rare in former times, and comparatively unknown in our days? Why this combustion began by the trunk and consumed the tissues where the accumulation of fat was the greatest? Why did all cases prove fatal?

It is to be noted that in the poorly ventilated rooms of the victims improper heating apparatuses were used in which *char-*

*coal* was slowly burned as a matter of economy, and that this dangerous slow combustion was kept up, more or less, during the whole winter and even in summer, as these poor creatures always felt cold.

Remembering that oxide of carbon is a gas that enters the blood, combining with the hæmoglobin, expelling the oxygen, I was struck with the idea that the dangerous product of this slow combustion was totally responsible for all the symptoms that had been erroneously attributed to alcohol, and that the accumulation of carbonic oxide gas was the prime factor in the so-called spontaneous combustion.

This gas is transparent, colorless, tasteless and odorless; its specific gravity is nearly that of air, in which it readily burns with a blue, flickering, or lambient non-luminous flame. The principal effects of this gas upon the organism, when one is slightly under its influence, are at first headache, dizziness, nausea or even vomiting, but very soon the system gets used to its action and the first symptoms are replaced by prostration, chilly sensations, bronchial irritation, redness of the face and skin, an irresistible desire to sleep, and if its effects are prolonged insensibility will take place, relaxation of the sphincters, and if left in an atmosphere containing a sufficient quantity of oxide of carbon, death will supervene without the slightest struggle. Sometimes after coma has taken place, due to the carbonic oxide poisoning, different forms of paralysis have been noted which are attributed to exposure to cold, but I think that it is due to a lack of nutrition or to compression.

If the volume of carbonic oxide gas breathed is slight and gradually accumulated in the human system, it is compatible with life for many years.

In a glass case having the capacity of 11,875 cubic inches I placed from three to six rabbits at one time and made them breathe an atmosphere to which was gradually added pure monoxide of carbon. They were kept there until they became more or less insensible, and as insensibility took place they were withdrawn and left to recover in the open air. The average time required for anæsthesia to begin was between eight and twenty minutes. This experiment was repeated from four to six times a day, noticing the effect produced on each



rabbit, meanwhile leaving the animal to partake of as much food as he wanted. Their appetite was seldom impaired. I experimented with rabbits for several years, losing some now and then, which were immediately replaced.

The shortest time in which I succeeded in accumulating in a rabbit's tissues a sufficient quantity of oxide of carbon so that the increased combustibility of its tissues would take place was 169 days of continued and careful administration. The skin and subcutaneous, as well as the muscular tissues, were readily combustible, burning with a bluish flame, leaving very porous carbonized masses retaining the shape of the parts that had been consumed, but producing very little smoke, due to the absence of fat.

In all forms of muscular tissues hæmoglobin exists in a diffused form and it serves as a *storehouse for the carbonic oxide*; besides, it accumulates in the subcutaneous and cellular tissues. I made the same experiments on omnivorous animals in whose tissues fat was easily and quickly accumulated. I found that roosters were most susceptible at first to the oxide of carbon, requiring, under the same circumstances as the rabbit, from six to fourteen minutes before insensibility commenced. This is due to the fact that these animals take deeper inspirations than the rabbits, but they soon got used to its effect. This experiment with carbonic oxide was continued for years, identically as before, feeding them (the roosters) with all the substances which were digestible and would tend to increase fat in their tissues, besides stuffing them by the mouth with mashed pecans.

After losing a great many, I succeeded in causing some to accumulate (whilst the fatty tissues were increasing) enough of carbonic oxide to render their tissues combustible, producing all the phenomena of this strange combustion. The rooster whose flesh was combustible had been subjected to the experiment for over eight months.

The so-called spontaneous combustion in man is the *possible result* of gradual, progressive and constant accumulation of oxide of carbon for years. And when I say *possible*, it is because death may take place before the accumulation is sufficient, or the body may not find itself in contact with a flame or

fire—a circumstance which I practically know to be indispensable.

This is what happens. The oxide of carbon begins to burn, producing an intense heat, which immediately carbonizes a small patch of skin, subcutaneous and muscular tissues. The carbonized tissue is very light and porous, absorbing the first drop of melted fat, which readily burns with a characteristic smoke. From this moment, and as long as there is fat to be melted by the intense heat produced by the burning gas, the body continues to burn of its own accord.

The combustion will spread rapidly and continue until the fats and the tissues containing the carbonic oxide are consumed. The carbonized flesh acts as a *wick*, melted fat as combustible matter, oxide of carbon as inflammable gas.

Furthermore, carbonized flesh will absorb water from the tissues that have not yet been destroyed, and at a moderate heat will lose it by evaporation; but if an intense heat is produced the carbonized flesh becomes incandescent, and at this high temperature decomposes water, and forms inflammable and combustible gases, such as oxide of carbon, hydrogen, etc., which, on burning, again produce intense heat.

This fact explains why the first sprinkling of water over incandescent coal will produce a flame instead of extinguishing the fire.

It is of common occurrence that in burning buildings, when the woodwork has been partly carbonized and is still incandescent, the first jets of water thrown upon the structure, instead of extinguishing the fire, will increase the flames.

The cadaveric rigidity began early, but was of short duration. The capillaries were filled with a bright blood, giving to the skin all over the body a special bright red coloration which persisted as long as the body lasted. The muscles were limber and soft. The heart contained in the right ventricle, in the majority of cases, a small coagulum of bright red blood. The lungs were of the same color; the bronchial tubes were more or less congested, containing a few mucosities. The arteries were empty, the veins full of fluid blood, having a brighter color than usually found. The spleen, kidneys and all the abdominal organs were highly congested. The brain was injected and notably softened.

The animals, deprived of their viscera, were kept in open air, in my experimenting room, to ascertain how long it would take before decomposition would set in. As the days passed, the flesh became drier and harder, retaining the red coloration and its semi-transparent appearance, which persisted for years.

I have yet in my possession parts of animals that died several years ago.

The reason why the combustion of the abdominal tissues and viscera are more perfect is not solely due to the accumulation of fat, but to a larger deposit of carbonic oxide.

When carbonic oxide is taken up by the hæmoglobin it always produces congestion and accumulation of blood in the abdominal vessels, and if this is prolonged for a long period the accumulation of carbonic oxide in the abdominal viscera, as well as in all the surrounding tissues, is correspondingly greater.

The gradual accumulation of carbonic oxide in the tissues takes place, expelling the oxygen; therefore oxidation is slower, favoring the formation of fats as well as explaining the reason why the victim complained of feeling cold in all seasons.

I stated before that alcohol had nothing or very little to do with the said phenomenon, but we must not forget that its abuse may also favor the accumulation of fat.

In former times the effects of charcoal fumes were solely attributed to the asphyxiating power of carbonic acid, a gas which is not combustible and extinguishes fire.

Oxide of carbon could not have been even suspected in those days, for it was discovered by Priestly in 1799. Its poisonous effect became known in 1802, and at present is so popularly known that out of over three thousand persons that I have questioned who use furnaces for cooking, ironing, etc., 98 per cent knew the deleterious effects produced by charcoal when it first begins to burn, as well as the great danger of its slow combustion.

If an animal is placed in an atmosphere charged with oxide of carbon, death will take place with convulsions in a few seconds, simply due to the exclusion of oxygen.

I cite from Fodéré's "Treatise on Legal Medicine," Paris, 1813, the following:

In a letter dated 1644, René Moreau, a physican of Paris, spoke of a flame which issued from the stomach of a dead woman at Lyon, France, and says that this flame was what is properly called "*ignis lambens*," of which Virgil has spoken in his poem about Iule, Eneid, Vol. II, as early as 682. The same author, speaking of human combustion, says: "The crytical, analytical, comparative and judicious observation of facts concerning the animal economy, united with the equally judicious application of the discoveries which are constantly being made in natural sciences to explain these same facts, can not fail to enlarge our sphere of knowledge and to make our descendants familiar with phenomena, of which the bare recital seems, at the present time, astonishing and incredible. The beginning of the eighteenth century witnessed, in scientific matters, a spirit of doubt, or, rather an excess of incredulity; we now believe more than our fathers, because the depth of our researches, directed in new channels, has brought to light many new things; many other things are no longer regarded as impossible, which may soon be proved to be facts, provided that the counter force of certain moral institutions does not cause the human mind to retrograde. We saw, in the course of the eighteenth century, an unfortunate citizen, residing in Reims, France, condemned to the scaffold, accused of having murdered his wife and then burned her body in order to escape punishment. Mr. Vigne has cast flowers to the memory of the unfortunate Millet, whose wife, addicted to drunkenness, was found in her kitchen, almost totally consumed, on the 20th day of February, 1725, at a distance of eighteen inches from the hearth. Millet, accused of her death and condemned to die, escaped the fate which he never deserved only at the expense of his fortune, and thus retained the esteem of mankind. Such a case should never again happen, because criminal justice, illuminated by the torch of medical science, will not ignore the possibility of *human spontaneous* combustion, produced either by the abuses of spirituous liquors or due to other causes."

How many dead bodies have been found in which the contact with a burning object was only missing in order to



produce this possible and, up to the present, mysterious phenomenon? If a body is found partly charred, the legal medical question may arise, "Was the body burned to conceal the crime, or was it a case of increased combustibility?" With the lights now before us, it is evident that this question is worthy of serious consideration at the hands of the medical jurist.

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#### A CASE OF ABSCESS OF THE SPLEEN, WITH SOME REMARKS.

BY ALLEN T. REED, M. D., OF LANNIUS, TEX

My attention was called to this subject by reading an article in the February number of THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

I had often thought of the extreme rarity of the occurrence of abscess of the spleen, and the literature seems still more rare when we have a case we suspect to be splenic abscess. I do not know from what cause we have splenic abscess most often, but I should think either from pyæmia, malaria origin or from traumatism would be most common, and I should think the second named origin would be most frequent in the Southern States. Still I am of the opinion that a good percentage is from traumatism.

Mr. Choudhoory, of India, reports that of 30,000 cases of malaria treated only three presented abscess of the spleen. There are a great many cases reported or thought to be splenic abscess that are probably mistaken diagnoses; and there are a great many cases diagnosed to be some thing else that are abscess of the spleen.

So the statistics on this subject are hard to get at correctly. Right here I would say, not that I am competent to give any of our medical colleges advice or suggestions, yet I do believe it would be better if our medical colleges would put more stress upon physical diagnosis, for herein lies the keynote to our success and to our patients' lives, for in the following case a mistaken diagnosis possibly cost this man his life.

Male, æt. 30, married. Was called to see patient February 11, 1892. He had been under treatment of Dr. ——— ever since the last week of December, 1891. When the man

came after me he stated he wanted me to go to see Mr. M. G., who had pneumonia ever since last week in December, 1891. Of course, I expected to see a case of chronic pneumonia, possibly with some of its sequelæ.

On arriving I found the man emaciated somewhat, pulse 120, temperature 103 deg., respirations accelerated, skin of a sweaty, clammy feel—a feel once felt that is long remembered, and yet hard to explain.

He gave a history of cold spells and sweating spells, entire loss of appetite, very weak, had had occasional attacks of diarrhœa, had dry hacking cough, an enlargement in left hypochondrium. He said that in December, 1891 he had been sharpening posts for two or three weeks regularly. In sharpening around the posts the end of the ax-handle would occasionally hit him in the left side; and he stated that several nights when he came home his left side hurt him very much, and some nights he could not sleep on account of the acuteness of the pain.

One evening of the last week in December, 1891, he went home, had a hard chill followed by high fever, pain in left side, cough, hectic flush. Dr. — came and diagnosed pneumonia, and treated him up to February 11, 1892, when I was called in to see the case and found the patient as stated before. After thoroughly examining him, I told him he had a splenic abscess, and an operation would be all that would do him any good. I told him he was not able to stand an operation just then, and I put him off on strictly a supportive treatment, and if possible, we would operate soon. On the third day I went to operate, but his wife begged me to defer the operation a few days longer, stating he had improved so much since I began with him, and may be he would get along without an operation. I explained the fallacy of her idea, but she persisted, so I did not operate.

I informed her if the abscess ruptured into the abdominal cavity it would be all over with him. I told her his golden moments had already passed. That he ought to have been operated on long ago. Early the next morning, just as I opened up my office a man came in post haste and said the patient was very bad. Described his appearance and condition. I told him it was not

necessary for me to go, but I went, and the patient died before I got there. I procured a post mortem and at 10 A. M. next day performed same, with three other doctors. The post mortem confirmed my diagnosis both as to splenic abscess and to rupture of the sac. I do believe we ought, as a profession, to obtain more post mortems than we do, and study disease and its pathology more accurately. We will have to educate the laity along this line, especially in the South.

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## Proceedings of Societies.

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### CLINICAL SOCIETY OF MARYLAND.

The 293d regular meeting was held March 16, 1894, and called to order by the president, Dr. J. Edwin Michael.

Dr. Randolph Winslow reported two surgical cases and exhibited the patients.

1. A case of gastrostomy for cicatricial contraction of the pharynx.

The patient, a colored child, aged three years, was admitted to the University Hospital September 8, 1893. Several days previously he drank some concentrated lye, which caused great inflammation and ulceration of the pharynx followed by contraction. Deglutition was difficult, and he could only swallow very small quantities at a time. Several attempts were made to pass sounds through the stricture whilst patient was under chloroform, but with poor success. He became emaciated, temperature reduced to 93 deg., and on one occasion to 90 deg., and his pulse became rapid, irregular and thread-like. As he was starving from inability to swallow sufficient nourishment, and as I believed could scarcely live more than a day or two, I determined to perform gastrostomy.

The operation was performed November 27, 1893, by Frank's method, in two stages.

He was then fed through the fistula, and the canal being oblique there is no leakage except when the stomach is very full. He takes milk, raw eggs and whiskey and cod liver oil in this way by means of a tube and funnel and has also become able to swallow liquids and soft foods again. The skin around the fistula is not excoriated and he suffers no inconvenience.

Subsequent to the operation his temperature became normal and his pulse good and regular.

2. Case of gunshot wounds of the intestines. Laparotomy and cure. Patient white, male, aged 60, admitted to hospital December 22, 1893.

Had been shot eighteen hours before I saw him, the ball entering the right iliac region, about  $2\frac{1}{2}$  to 3 inches to the inner side of the right anterior spinous process, and about same distance from Poupart's ligament. The wound was small, with discolored edges; temperature 101 deg., pulse 104. An incision was made through the track of the bullet, which led into the peritoneal cavity. Considerable free, dark blood was found, flushed out, the intestines examined, and four wounds leading into the lumen of the bowels were found. Some fecal and foreign bodies were also found in the peritoneal cavity. The wounds were all in the ileum, three close together, while the fourth and largest was 8 to 12 inches distant. Lembert sutures were used for closing these wounds, and as there was some bleeding from behind the peritoneum the abdominal incision was left open. The bullet could be felt under the skin of the buttock.

December 28 the abdominal wound was closed, healing proceeded nicely and all was well until January 4, 1894 when temperature suddenly rose to  $102\frac{1}{3}$ . An examination showed an induration of tissues in the iliac fossa, an abscess was supposed, an incision made and some purulent fluid escaped, followed by free hæmorrhage.

The missile was also extracted at this time. It was scarred and had passed through the ilium and lodged in the buttock.

On January 10 a pulsating lump developed in the right iliac fossa and he was again chloroformed and an incision made along and above Poupart's ligament, to expose the deep circumflex iliac artery, which was ligated and no further trouble occurred.

He was practically well from the intestinal wounds in a few days, but on account of the wound made in the last operation he was not entirely healed until March.

Dr. Robt. W. Johnson—I should take exception to the rule of performing laparotomy for all perforation wounds of the abdomen. Wounds produced by small bodies, such as the smaller calibre bullets, shot, etc., will often do well without operation; so, unless we have evidence of fecal extravasation, or sepsis, following such wounds, I do not think it necessary to open the abdomen.

Dr. L. McL. Tiffany—Dr. Johnson raises an important



question, viz.: How can you tell from external appearances what damage has been wrought inside the abdominal cavity? I do not think you can. It is impossible. A ball passing through the cavity from side to side I think always cuts bowel—from before back not so—but I do not think there is any sign from the outside of fecal extravasation unless we wait some time, and in such a case the delay is more dangerous than an operation would be. I operated on one case three weeks, in which the missile had entered laterally and produced nine wounds of the small intestine and four of mesentery. He is now well. I recall another case in which there were twenty-five wounds of the intestine and two of the bladder, and yet no external signs to indicate internal wounds. It may be there is no extravasation from very small wounds. I have not seen such cases, however, and would prefer to operate even here.

Dr. J. E. Michael—I am inclined to the views of Dr. Johnson in regard to small wounds by small projectiles.

Dr. Michael then reported three cases of wounds by small projectiles, upon which he did not operate and which got well, and said: I suppose the proper thing to do is to operate as Dr. Tiffany has said, especially when the course of the object was from side to side, but I have not yet come to the point of thinking that laparotomy is an entirely safe operation. I suspect that if we were to count up all cases of gunshot wounds of the abdomen operated upon, we should not find such beautiful statistics as are now supposed to exist.

Dr. J. W. Chambers—If there is one rule of surgery that is a good one, I think it is that “when we have a perforating wound of the abdomen it is our duty to find out what organs, if any, are injured.” I should not consider the size of the projectile, but examine all.

You can not tell much from outside symptoms. Shock, etc., is not to be depended upon. Some very grave cases have very slight shock, and *vice versa*. The danger of opening the belly is slight compared to the risk attending delay. Even a small perforation will be safer with a Lembert suture in it.

Dr. R. Winslow—If I were shot in the abdomen, I should want to be opened up and if any intestinal wounds were found have them attended to.

Certain cases do recover without operation, but who can say that in those cases the intestines were hurt.

H. O. REIK, *Secretary*.

## PHILADELPHIA COUNTY MEDICAL SOCIETY.

## A BRIEF STUDY OF SOME ANCIENT EPIDEMICS AND THEIR RELATION TO INFLUENZA—WITH NOTES ON THE EPIDEMIC OF 1893-94, AND RECENT METHODS OF TREATMENT.

By ROLAND G. CURTIN, M. D., and EDWARD W. WATSON, M. D.

[Read February 28, 1894.]

The question of the identity of the cases of excessive sweating, seen frequently in the last four years with influenza, is scarcely open to dispute, since, in the cases observed, either the initial symptoms were those of influenza or the sweating was evidently a sequel to a well-marked influenzal attack. All influenza, as a rule, was marked by relaxation of the skin, after the initial period and the subsidence of the earlier symptom, and this often continued in a mild form (sweating on slight exertion, sweating when in bed, and on slight exposure to cold) for days and weeks. But the cases directly under consideration were marked by such excessive relaxation, and so entirely different from any previously observed in any other disease (except, possibly, in rare cases of convalescence from malarial and rheumatic disease, from which latter they differed in the odor of the perspiration), that they could not but strike the observer as unique.

We might add that since the epidemic sweating in phthisis has been much aggravated, as well as in other diseases. This may be explained as a condition like the other general catarrhal conditions, a hydrorrhœa, or, what might be termed for the want of a better name, a cutaneous catarrh of the sudoriferous glands.

In the early epidemic of 1889-90 a number of cases were observed in which there was this tendency to a remarkable degree, continuing for weeks, without emaciation or exhaustion or induced anæmia. These cases often perspired to such a degree that in cold rooms they seemed enveloped in steam, and at times as they were observed in bed, the ear which was uppermost and the corresponding hollow of the cheek were often full of water. At times the sweat extended into the mattress, and from below upward the moisture would outline the form of the patient on the coverlid.

In one case this condition lasted one week; in another four weeks; in another three months; in others five months; and in two six months; and one case affected a year ago, even now on slight exposure to cold continues to sweat profusely.

Many practitioners alluded in conversation or in periodical medical literature to similar cases, one writer in the South reporting an epidemic in his locality of what he termed a

“sweating fever,” and in the communication referred to asked information as to its nature. From the description given it was evidently something more than ordinary epidemic influenza, or simple catarrhal fever as usually observed, but resembled closely some of the cases seen by the writers in the past four years. Our cases generally began with an attack of influenza or had some of the complications and sequelæ of influenza, viz.: the pulmonary or cardiac symptoms (angina pectoris, pericarditis and heart failure), or affections of the peripheral nerves of one or both arms, rheumatoid pains, meningitis, diarrhœa and other catarrhal affections, and insomnia. With this profuse sweating the temperature night and day was generally near the normal—often either merely a little above or below. In one case for two months perspiration continued with the temperature from  $\frac{1}{2}$  to 1 deg. below normal. Another case was noticed similar to the above.

It is easy to understand from what we have seen of influenza that in different periods of an epidemic different structures may be predominantly affected, viz.: An epidemic of influenza, in which cardiac symptoms predominate, might, under depletion and the unwise use of depressants, come to resemble the so-called “cardiac disease” of ancient times; or where the vasomotor nerves especially suffered, under like improper management—over-heating, excessive covering, and the abuse of diaphoretics—a genuine “sweating sickness” might be produced; or the extreme sweating producing copious miliary eruption, we might with justice call it the “miliary fever.” In fact, the recent epidemic has by turns exhibited the characteristics of the various disorders described and preserved to us in the writings of several ancient observers, and it may prove of some value to contrast these characteristics with those extant observations.

The following shows what symptoms and conditions were common to all the above mentioned diseases:

They were all—

Epidemic.

Sudden in onset.

Commenced with chilliness or rigor.

Accompanied by more or less intense headache and fever.

The strong were attacked rather than the weak.

The comfortable classes rather than the extreme poor.

All were attended by sweat of unpleasant or fetid odor.

Occasional varied hæmorrhages in all.

Vomiting or purging at times in all.

Meningeal and other nervous symptoms.

Nervous prostration and prickling pains.

Sudden paralysis, heart excitation, heart failure.

Rheumatic pains—gouty symptoms.

All were infectious or contagious.

All had catarrhal symptoms, and sudamina or other eruptions of a miliary character.

In all the atmospheric conditions favoring spread of the disorder were fogs and humid atmosphere.

Stimulants were in all beneficial.

All had heart complications.

Sudden excessive secretions of urine and sweating came together.

All were alike sensitive to cold and draughts.

Checked perspiration caused diarrhœa.

Relapses were frequent.

Mortality light in acute influenza, heavy in all others (this can be somewhat accounted for by modern therapeutics and hygiene), and much in this respect depends upon the peculiarity of the epidemic.

The sequelæ in all were very similar; the general constitution was shaken—dropsy, consumption, heart failure, low forms of fever followed, and insanity and suicide were frequent.

A brief study of these data will show how very analogous, to say the least, were all these diseases. Certain marked peculiarities, not found in other diseases generally, were common to all. The most marked is sweating, so that from the descriptions which have come down to us one could see little reason why the name of "sweating sickness" might not have been applied to any of them (at least in some of their extreme and varied manifestations). The group of nervous symptoms common to all is very striking and peculiar. These diseases seem to have been all recognized as contagious or infectious, and occurred as epidemics, and often seemed to supplant (follow or succeed) one another rapidly. The rheumatoid and gouty symptoms, the heart complications, while in some more prominent, existed in all. The description of the cardiac disease might be applied, line for line, to some of the severer cardiac influenzal cases recently met with, and at times associated with these was sweating, as profuse and overwhelming as that described in the "sweating sickness" of antiquity—lacking only its extreme malignancy.

The sequelæ seem to closely resemble each other in all, and the atmospheric conditions, fogs and rain, and a warm, moist, wet state of weather seem to have in all been exciting causes.

We are almost forced to the conclusion that, if not identically the same, these diseases belong to the same group or



family, and are intimately correlated. They seem to have preceded, replaced, or followed each other in close succession through quite an extended period, or prevailed in different countries almost simultaneously, at times seeming to be conveyed by contagion or infection. Of their real origin we have no more accurate knowledge to-day than our forefathers had, but it seems a reasonable and probable deduction that there exists almost constantly in the world a form of influenza (generally transient and mild) known to us as the cold we "catch" under various atmospheric causes, which, under vicious atmospheric conditions and climatic variations, is capable of developing in one or another direction—and so into the various forms which we have been considering. If not all the same in origin, when once their microbic cause is really isolated and identified beyond a doubt, it will, in all probability, be found to be but varying forms and outgrowths of the same germ, or that varying germs exist (as in other cases is already recognized) of similar influence, causing those different diseases which may be considered as but malignant varieties of that influenza with which the world is at present so unpleasantly familiar.

EPIDEMIC OF INFLUENZA AS OBSERVED IN PHILADELPHIA DURING THE PRESENT YEAR (1893-94).

During the years of influenzal epidemic disease since its appearance in 1889, its variations in intensity may be summed up roughly as follows:

1889-90, very severe and fatal.

1890-91, mild.

1891-92, marked severity.

1892-93, mild.

1893-94, very marked, but not so widespread and fatal as in 1889-90.

From this it will be seen that every other year it has been severe. The two winters when it assumed a milder form were of the five the most severe in temperature, 1890-91 having an early cold December which seemed to throw its epidemic outbreak toward the spring; 1892-93 being continuously cold, the epidemic outbreak seeming to be worse when favored by a mild fall and early winter and great and frequent changes. This past winter the outbreak began somewhat early, about the middle of December, the usual number of isolated cases having occurred through the autumn. A certain amount of the year's outbreak seemed due to visitors returning from Chicago, where it prevailed in a mild form.

The pulmonary attacks seemed milder, though grip lung

was not intrequent. The expectoration was more inclined to be purulent. Even among the aged the fatality was light; one of the authors encountered seventeen cases with but one death, and that in a case complicated with pleurisy and effusion and catarrhal nephritis. Of the sixteen recoveries, some of the ages were eighty-six, eighty-two, seventy-eight, seventy-four, sixty-eight and sixty-four years. The constitutional symptoms did not end by crisis, but continued some time after the local symptoms had subsided.

Diseases other than influenza have shown less of the influenzal stamp than in previous winters, but the traces of the epidemic were still visible when looked for. Considerable vertigo, alternate creeps and sweats, rheumatic pains in the limbs, insomnia, and occipital headache accompanied disorders where such symptoms are not ordinarily met. Temperature ranged lower on the whole than in past years. In bowel catarrhs much colitis (with gelatinous froth, with or without blood) was frequent.

The vertigo was sometimes transient, but often very persistent; change of posture induced it—throwing back the head, looking to right or left—sometimes such movements of the head even produced insensibility. This vertigo was often persistent; in one case for a year being worse on exposure to cold, and finally disappeared with an attack of pulmonary catarrh.

Many cases of stiffness and pain in the back of the neck occurred during this winter's epidemic, some with considerable fever. Constipation occurred in almost all prolonged cases of influenza, was obstinate and marked peculiarly by a tendency to "throbbing in the bowels." This constipation was not due to hardened fæces or scanty mucous secretion, but rather to an imperfect power in the muscles of the bowels, the expulsive mechanism, or both.

During the mild weather of the winter catarrhal diarrhœas were more common, associated often with vomiting, which was an unusually frequent symptom during the entire season; while during the cold spells pneumonia was most frequent.

As a typical instance of the chronic cases of influenza of the mild nervous variety we might give the following, very recently met with:

A. B., traveling salesman, has had the following symptoms for three years since an acute attack of influenza. He has tickling chilliness of the legs, followed by a cold clammy perspiration on exposure to draughts and cold, and at times when in bed; insomnia or disturbed dreaming sleep, especially in the morning. When awake he is very despondent and

irritable; hands numb at night; tinnitus; rheumatoid pain; varying soreness of the eyeballs and abdomen and a catarrhal dyspepsia.

Temperature 97 to 98 deg., A. M., and 99 to 99.5, P. M. He feels much better toward night. Such cases only require excessive fatigue or depressing emotions or great exposure to produce some of the severer phases of the malady meningeal, pulmonary, cardiac, gastric, intestinal, renal, etc.

#### AMERICAN GRIPPE, OR MYXOID-ŒDEMA.

By CARL SEILER, M. D.

*Mr. President*—I have been asked to present my observations of American grippe and its after-effects. Of course the subject is one which is so interesting to all of us, and which is, unfortunately, so mixed in the minds of many that it will be possible for me, in the short time, to give only a *résumé* of the subject. Therefore I hope that the few remarks that I shall make may be of sufficient interest to the members of the society to call forth their expression of opinion and relation of clinical observations of much more value than my own.

In 1885 I observed the first case of this peculiar disease. I afterward (in 1887) discussed the subject with Dr. Glasgow, of St. Louis, who, strange to say, had made observations similar to my own; and as there was no disease which had been described which, to our knowledge, came anywhere near the one under discussion, he had called it "It," and so had I. The disease was first described by me in a paper published in April, 1889. Dr. Glasgow reported his observations to the American Laryngological Association in May, 1889, and in June of the same year I read my paper before the American Medical Association at its meeting at Newport. You may remember that at that time I referred to the fact that the disease was spreading all over the country and that I had received letters from Montana, Washington, the Canadas, from the South, and, in short, from all directions, after having made inquiry about the new disease. Geographical situation, elevation, temperature and atmospheric conditions apparently had nothing to do with its causation; in fact, the disease was everywhere the same in its specific characteristics.

In 1889, in the month of December, the disease broke out in New York City, where it assumed the proportions of a very alarming epidemic, and its existence was recognized as an epidemic general and fatal all over the United States within a very few weeks after its recognition in New York. Unfortunately it was called "la grippe," or the Russian influenza, a disease differing entirely in its clinical character and prominent patho-

logical lesions from the disease erroneously named by the public press. I then published a paper in March, 1890, in which I gave the differential diagnosis between the Russian influenza, or "la grippe," as well as of other diseases mistaken for it, and the American disease. Last March (1893) I published the fourth edition of my book on *Diseases of the Throat*, in which I devoted an entire chapter to the consideration of this disease, under the name of "American grip," or myxoid-œdema, to distinguish it from the "Russian" or European influenza. The distinction is similar to that which we are accustomed to make between measles and German measles, or morbilli and rubella (Rötheln).

The peculiar symptoms of the American grip are: the sudden onset; the rheumatic pains in all parts of the body accompanying the sudden onset; an abrupt rise in the temperature, with moist skin; a peculiar tension; no inflammation of mucous membranes. In some cases a deposit of pseudo-membrane occurs upon the tonsils and elsewhere, which, however, is of entirely different character from the pseudo-membrane of croup and diphtheria. There is a peculiar puffiness of the mucous membranes, which shows itself wherever the deposit is most developed. It occurs in the throat, in the larynx and nose, in the bronchial tubes and in the mucous membrane of the intestinal tract. In its prostration of the vital powers of the body the disease is something like typhoid fever; but with it there is no fever, no exacerbation of high temperature; there is no thirst, no dryness of the skin, and no brown coating of the tongue. In one case the temperature was 105 deg. F. at the beginning, but it went down to normal in twenty-four hours. The pulse was 76 right along, and had none of the characters of a fever pulse. In those cases in which death occurred the temperature was reduced to normal, or even sub-normal, and the giving out of the heart was the original cause of death.

In some cases the submucous infiltration is most evident in the vocal bands, and here the consequent closing up of the larynx causes suffocation. The immediate cause of death is usually a small hæmorrhage in the mucous membrane in such cases. Ecchymotic spots are often observed in the throat, bronchial tubes, and also in the stomach and intestines. Indeed, there may be black vomit like the black vomit of the yellow fever, and the stools may also show the presence of effused blood.

I am now speaking of the symptoms of American grip. I need not refer to the symptoms of Russian grippe, since I could not add anything to the admirable review of them given



by my friend, Dr. J. C. Wilson, in his article on "Epidemic Influenza," in Pepper's *System of Medicine*, which you are already familiar with.

In the matter of treatment I have found the greatest benefit from a long-discarded drug—which, I must admit, is of no use in any other disease—the benzoate of sodium. In American grip it acts as a specific, precisely as quinine acts in malarial fever. It relieves the pain at once; it brings down the temperature; it relieves the oppression of breathing, and removes the false membrane from the throat. This remedy, with alcohol and rest, constitutes the whole treatment of the disease. In my experience I have found that it is an absolute specific—of course, provided that the diagnosis had been correct. As to other drugs, I would say that all those patent coal-tar remedies are only a cause of death. They act as heart depressors, when the heart is already profoundly depressed by the disease. Antipyrine, antifebrin, and all the other antis are worse than useless. The heart needs to be supported, and they all cause further depression. Quinine is often a cause of insanity and suicide. During the last three years I have made a careful investigation of all published cases, whenever possible, where insanity had been the cause of death in grippe, and I found that quinine in large doses had always been given to the patients. I have observed, in my own cases that even very small doses of quinine will often cause mental disturbance.

Thus far I have considered only the acute condition. If benzoate of soda is not given, and the patient does not remain in bed, a chronic condition of grippe will be produced. This is a very distressing condition, as I know from personal experience. The symptoms are so different that they can not be given in detail, and it is difficult to make a diagnosis. There is a flabby, pale, or coated tongue, want of appetite, impaired digestion, irregularity of bowels. With this there is a depression of spirits, want of ambition, and inability to perform any work requiring exertion of mind or body. A little over-exertion will throw the patient back, and it will be days and days before he can regain his former position and begin to gain strength.

The pathology of the chronic cases has been shown to be a slow process of fatty degeneration of all the organs of the body except the kidneys. And, if there has not been pre-existing disease of the kidneys, there will be no albumen in the urine.

The chief symptoms of the chronic form are general neurasthenia, associated with chronic distention of the venuoles, and anæmia of the arterioles throughout the body. This was

seen by ophthalmoscopic examination in the eyes, where it produced impaired vision or blindness. Blueness of the skin is due to the same venous congestion, evidently of neurotic origin. Besides the mental depression, there are hallucinations of peculiar character and irritability of temper. Light has a depressing effect, while darkness causes exaltation. Toward evening the patient usually feels much better than in the early part of the day. I have observed that a patient may go to sleep at 10 o'clock and wake up at 11 in a state of mental exaltation. He feels like getting out of bed and walking about his room, or relieves his mind by writing poetry; this is the only thing that will enable him to go to sleep again. I have some very curious specimens of this "grip poetry" in my possession. The irritability of temper I have referred to is beyond the control of the patient, although he is fully aware of it; this is part of a hysterical condition, and underslight exertion, or emotion, a condition of hysterical aphonia may be developed even in men. Then, again, the patient is very much disturbed by all kinds of rhythmical noises, especially at the seashore, where the "one, two, three" of the breakers nearly drives him out of his senses. Even if he can not hear them, he is conscious of annoyance from the rhythmical repetition of the waves, and this will make him extremely nervous, so that he can not sleep. The rapid succession of the trolley car bells is also very annoying, and I have had patients who were driven out of the city by these noises.

The treatment of the chronic grip is by alterative tonics. Buchu may be given as a mild diuretic. If there is sleeplessness, bromides are useful. All the coal-tar preparations are bad. Of the narcotics, the best is hyoscine in small doses; as a tonic, strychnine in considerable doses, beginning with gr.  $\frac{1}{32}$  up to gr.  $\frac{1}{16}$ , three or four times a day. A change of climate is advisable, and the best I have found is a moderately high place, where there is plenty of oxygen and an absence of noise. This is necessary to obtain rest for the mind and body. Mineral waters are valuable, and I found at Bedford great advantage from the use of the water, but there is a spring at Swift-water, near Pocono, which I consider even better.

The wine of coca is especially useful when the patient begins to exercise as a "pick-me-up." I came across, the other day, a sample of wine of coca made by the Columbia Chemical Company, of Washington City, which I found very much better than any I had previously met with, as it gave much satisfaction in the cases for which I ordered it. Where the patient must keep at his work the coca is a valuable remedy, as in the case of a preacher who has not sufficient strength to go through with his sermon without some such aid.

New remedies, too, which were unknown to the world in its older epidemics of influenza have been used with advantage, but in general the tendency has been to treat influenza and its sequelæ on the old lines of treatment, and with far more success than in the years since 1889, and we think that this tendency has gradually increased since that year.

For acute influenza, the salicylates and salicin still hold their popularity, which only increases with time and use, especially since we have in the market the pure salicylates of Merck and others, which certainly do not depress the system as did the crude article formerly used; phenacetin combined with these still holds its popularity in early stages, while for the cough in the bronchial form codeine is used more and more in small doses.

For the marked initial chill, spirit æth. nit. with spirit æth. comp. and chloric ether afford a valuable aid, and when these fail to arrest the often convulsive movements and restore the overwhelmed centres, amyl nitrite and nitroglycerin have often proved successful. Opium, in the form of onset accompanied by severe pain, has given far better results than in former years, with apparently no bad effects; Terebene, turpentine, oil of sandal, and oil of cubebs, as expectorants, and ammonium chloride in the later stages, have been relied on; but for the persistent tickling, pharyngeal, laryngeal, and tracheal cough, all remedies administered have often failed, but immediate success has been met with by employing a spray of liquid albolene and menthol, five grains to the ounce or more.

Where the grip lung with its psuedo-pneumonic physical signs made its appearance, counter irritation by mustard has seemed best. The pleurisies, by the way, which have been encountered this winter were almost invariably plastic and subsided readily on counter irritation and salicylates.

The purely gastric influenza was treated by cocaine, gr.  $\frac{1}{2}$  in  $\mathfrak{z}$ ij of aq. chloroformi, as frequently as every hour, while the diarrhœal form was managed readily in most cases by bismuth and opium, cocaine being added where vomiting continued, and in the obstinate cases, and in fact in all the cases which seemed severe at the onset; the bowels were daily flushed out with a 1 per cent. solution of creolin or boric acid. The effect of this was often marvelous, especially in cases attended by high fever, where the subsidence of temperature was almost immediate.

For the resulting prostration and loss of appetite, full doses,  $\mathfrak{z}$ ij, of bitter tinctures, as cinchona comp., cardamom comp., calumba and gentian, with full doses of strychnine,

were given; sometimes caffeine was added. Alcohol, cod liver oil, hypophosphites, iron, and malt still hold their own, and seem the best known agents for the repair of wrecked and ruined constitutions. Opium has been found to be the most useful drug for the meningeal irritation, or mild or threatened meningitis. Vini iodinii comp., suggested by Dr. Potsdamer, has proved of great service in the chronic cases of all forms of influenza. As to the treatment of the profuse and protracted sweating, we might as well say that after trying all recommended remedies, all equally failed of satisfactory results. Fair trial has been made of the following remedies: atropine and belladonna, quinine and sulphuric and camphoric acids, agaricine, picrotoxine and ergot; small doses of jaborandi seemed to do a little good; also alcohol in moderate quantities; also sage tea and boneset. Externally, alcohol and alum were of some use; internally alum failed. The power of the vasomotor nerves seemed often so impaired that remedies had little or no effect.

#### DISCUSSION.

Dr. Judson Daland—Dr. Curtin's remarks with reference to the sweating sickness were of special interest to me, and one readily understands why the name was applied to this disease in olden times. His descriptions of epidemics that occurred long ago were well made.

Dr. Curtin's wide knowledge and extensive experience make anything that he says in regard to the therapy of this affection of great importance. With regard to the "grip-lung" to which he refers, this affection has for a number of years attracted my attention, particularly from a diagnostic point of view. The physical signs in these cases often vary from day to day with extraordinary rapidity—in fact with such rapidity as to make one doubtful of the correctness of the first diagnosis. The pathological examinations show a mixed condition of bronchitis, catarrhal pneumonia, and collapse. These lesions occurring in different parts of both lungs, and varying with such extraordinary rapidity, suggest a distinctive nervous origin, and there is probably an interference with the nerve-supply of the lung.

I did not hear Dr. Curtin mention the use of strychnine and alcohol in the treatment of the general disease. The benefit derived from the use of these agents during the height of the disease is very great, and they are practically the chief remedies to be relied on. The use of the salicylate of sodium and phenacetine has given me the results which he has mentioned.



Regarding the suggestion of Dr. Seiler that this affection be called American grip, I should say that although I have not studied European grip, the descriptions which I have read, and the numerous conversations that I have had with continental physicians, have failed to convince me of any essential difference in the disease as we see it here. I therefore think it unwise to add another to the various synonyms for influenza, which name is the one to be preferred.

Dr. Seiler also states that the chief cause of death is hæmorrhage from the mucous membrane. In my experience the chief cause of death has been the pulmonary complication. With regard to the use of benzoate of sodium, I do not think that the favorable result described could be expected in many cases as seen in general practice.

With regard to the effect of quinine in the production of insanity and other mental disturbance in influenza, although I have seen many cases of influenza, most of which have received quinine, I have yet to see a case in which the casual relation between the mental condition and the use of quinine could be established.

Dr. J. Solis-Cohen being called upon by the president, said: I came here to listen, and have not prepared myself to take part in the discussion. I remember the initial papers of Dr. Glasgow and Dr. Seiler very well, but while Dr. Glasgow named the disease "it," he distinctly stated that in his reading he could not find anything that resembled it except the old records of influenza. This was a very acute observation, made, as it was, three or four years before the epidemic became pronounced. My own earlier cases were treated exactly as Dr. Glasgow had recommended—that is, with benzoate of sodium, and I do not know of any treatment that acts better than putting the patient at rest, giving benzoate of sodium in ten-grain doses every hour or few hours until the kidneys are acting freely, and then continuing it less frequently. Strychnine, acting as it does on the terminal nerve fibres, is of great service, for the disease exerts its baneful influence markedly on the terminal nerve fibres of the structures concerned in the nutritive and circulatory systems.

The class of cases that I have seen suggests that this disease is largely a disease of the lymph and circulatory systems. We know that the nasal lymphatics are in close connection with the sub-dural space, and in many of the cases where the nasal symptoms are severe, we have severe meningitis and those conditions which render the patient despondent, as a direct sequence by continuity of structure. The profound impression on the nutrition shows also that the lymph system is very much affected.

In the history of previous epidemics of the disease marked reference has been made to different varieties, such as the pulmonary, gastro-intestinal, and other forms of influenza, and I have asked a number of my friends in general practice whether they had observed in recent epidemics as many miscarriages as had been described in previous epidemics. I found that, with the exception of the epidemic of 1889-90, there had not been so many noted.

Another reason for regarding this as largely a disease of the lymphatic system is the occurrence of the affection of the throat described by Dr. Seiler—that peculiar puffy condition which looks apparently like œdema of the larynx and œdema of the palate. When you incise these parts, however, you do not get a serous fluid. Sometimes you have blood and sometimes a mucoid material or lymph, which may exude in long, continuous strands.

Now as regards the use of quinine in influenza, I have often been asked what can be done to prevent the occurrence of the disease in unaffected members of a family in which it has appeared. I have always advised the use of quinine in ten to fifteen grain doses early in the morning. I am satisfied that large doses often act as a preventive, and that in these cases the quinine does not so readily produce the ordinary symptoms of cinchonism.

In using strychnine I think that the best preparation is the arseniate, which I give in the granules dosimétriques of Burggræve, containing one-half a milligramme, or about one-hundred and twenty-fifth of a grain. The patient takes three to six or more granules a day and continues it for a month or two. In that way many of the sequelæ can be prevented.

Dr. Frank Woodbury—I look upon influenza as essentially an intoxication. In Europe epidemic influenza, or the grip, is now pretty well accepted as having for its cause the bacillus of Pfeiffer. It is stated that pure cultures of this bacillus will reproduce the disease in animals, thus fulfilling the requirements of a specific, infectious germ. Pfeiffer's bacillus, however, is, like the tubercle bacillus, often found in association with the staphylococcus and the streptococcus and other bacteria of suppuration, thus accounting for the organic inflammation. As the influenza bacillus is not found in the blood, it probably acts by its products principally upon the nervous system.

It is very possible that the germ of influenza may have suffered some modification in its development and pathogenic effects, owing to different climatic conditions in this country from those of Europe, so that we should not be surprised to

find modifications in the course of the American disease, such as Dr. Seiler insists upon. That there is any etiological difference between the two kinds of epidemic influenza has not been suspected; possibly Dr. Seiler's observations may have been upon an entirely distinct disease.

The portal entrance of the poison into the system is worth considering. In most cases the culture ground of the bacillus is probably located in the upper air passages, and I am inclined to think that the tonsils and naso-pharynx are the special points of election. In others the bronchial mucous membrane is most affected, while in other cases the gastro-intestinal canal is the particular place of development. It has occurred to me that, just as in the administration of morphine hypodermatically, the effects of the drug are most marked if injected in the neighborhood of the seat of the pain, although we know that the drug acts through the general circulation, in a similar way the well-recognized varieties of influenza may be connected with the several culture fields of the bacillus, the toxine acting most virulently in its immediate neighborhood, producing cerebral, gastro-intestinal, or broncho-pulmonary phenomena, which have been alluded to.

This leads me to speak of the prophylaxis of influenza. I can endorse what Dr. Cohen has said with reference to quinine. I employ it as much for antiseptic and prophylactic purposes as for its tonic effects. The mouth and throat should be kept clean by the use of mild antiseptics, and the naso-pharynx by the use of Seiler's pastilles or Dobell's solution, and the throat carefully watched. There is no question in my mind that the disease is contagious; when it appears in one member of the family others are liable to be affected. This has been established by the local epidemic which was reported by Drs. J. Wm. White and Simes to this society several years ago. It will be remembered as the case of Dr. S. S. White, who died of influenza in Paris, and whose body was brought to his home in this city, whereupon a number of persons who were in the room when the casket was opened contracted the disease, although there were no other cases in the city at the time.

In the few cases where I have used benzoate of soda, I have been pleased with the result. I have especially relied on strychnine, given in the acid solution of the hypophosphites according to the formula of Dr. Gerhard. The strychnine is given in doses of  $\frac{1}{32}$  of a grain, gradually increased. With this I have used cocoa, and in regulating the diet I have found the juice of fresh fruits, such as the orange and pineapple, to be of service in assisting the weakened digestion. These juices have been shown to have considerable peptonizing power over

albuminoids, and the salts they contain possess diuretic and antiscorbutic effects which are useful in improving the condition of the blood.

Dr. William S. Stewart—There is a great variety in the manifestations of influenza, but the ordinary influenza, which is so common in this country, is certainly very contagious. The influenza of la grippe is a different affection from the ordinary influenza. I do not think that it is particularly contagious. I have seen grave and serious cases where no other member of the member was affected.

In regard to treatment, I wish to say a word as to the bromides, particularly in those cerebral cases that would be liable to be affected by quinine. I have combined the bromides with gelsemium with great benefit. In some of these cases, if you give quinine you only intensify the pain and delirium. When the cerebral suffering is relieved then it is important to give iron, quinine, and strychnine, and it may be aromatic spirit of ammonia, to tone up the system and to overcome the heart-depressing effect of the disease.

Dr. Cohen—I am pleased to note that Dr. Curtin and Dr. Watson in some of their conclusions confirm those which I published in an article upon "Catarrhal Fever," contributed to the *Medical and Surgical Report*, October 27, 1889, some time previous, therefore, to the enlarged experience which we now have. One point which I endeavored to make was that influenza is always with us, but that except in times of widespread epidemics it was only recognized as such by those who, through teaching or early experience, had had their attention specially directed to it. This is, I think, an important matter, and will bear emphasizing.

I am also glad to note that experience has confirmed the usefulness of the salicylates in this disease. In the cases which came under my observation in 1885, 1886 and 1887, and upon which the paper referred to was based, I had found cinchonidine salicylate apparently curative, and so reported. I have more recently used sodium benzoate in early cases with much benefit, especially those in which there was a tendency to suppression or great diminution of urine or which exhibited severe pains in the loins.

The value of strychnine in the prevention and treatment of the distressing sequelæ can not be overestimated. The drug should be given in small doses frequently repeated.

Drs. Curtin and Watson emphasize the great sweating. I have been much impressed with this in my own experience. I remember one case in an old man in 1889, in which profuse sweating and subnormal temperature were the only objective



symptoms of the disease. This continued for two weeks, and I am satisfied that if the patient had not been put to bed and kept there with the external application of heat and with the administration of hot drinks of cocaine and restoratives he would have died, almost without realizing that he was sick. He had complained merely of discomfort in the throat, nothing to account for the symptom being discernible on examination.

Dr. Samuel Wolfe—I have observed a considerable number of cases of the intestinal form in which the symptoms resembled those of dysentery, but the affection yielded to the same treatment as did other forms of grip. The affection of the nervous system is a very large element in the disease, both in its onset and in its sequelæ. The variability of the seat of attack shows this to be the case. The sequelæ—insanity, meningitis and neuritis—point to a secondary poisoning affecting the nervous system. Many chronic nervous affections date back to an attack of grippe.

Influenza is comparable to diphtheria inasmuch as we have the acute symptoms due to primary poisoning and the secondary symptoms due to poisons generated during the disease.

I would take exception to the statement that influenza is similar to the ordinary colds which we always have with us. The best treatment for an ordinary cold is trying to shake it off; this in influenza would lead to prolonged convalescence, or sequelæ. The most valuable element in the treatment of influenza is rest. The patient can do better without any drug than without rest. This rest should be prolonged until the patient can make efforts without tire. This difference alone proves that influenza is dissimilar to an ordinary cold.

As to therapeutics, I believe that quinine is one of the best remedies—not in one large dose, but in smaller doses frequently repeated (four grains every two hours) until some cinchonism is produced, and this should be brought about in the early part of the day. I would rather do without any other drug than give up quinine. In the intestinal form, salol is a valuable remedy and may be combined with quinine. The neuritis is to be treated like other forms of neuritis. Hypodermatic injections of cocaine (in doses of from one-eighth to one-half grain) near the seat of pain, and repeated twice in the twenty-four hours, relieves the pain, not only for a short time, but permanently, and brings about an earlier convalescence.

Dr. Cohen—Replying to Dr. Wolfe, I did not mean to say, and I trust I did not say, that influenza is the same as an ordinary cold, but I wish to emphasize the fact that influenza is not merely an epidemic disease, that it is seen every year and

every month, and that many cases of influenza are ordinarily mistaken for "colds," for acute catarrhs of nose, throat, bronchi, stomach, or intestines, and even in some instances for typhoid fever and for rheumatism. Influenza is at times the easiest and at other times the most difficult disease to recognize. The opinion of those who have most closely studied the affection is that it is a disease of intoxication, due to a specific poison, depressing the organic nervous system. This poison may be the result of the development of a microbe, but as yet this microbe has not been definitely proved to exist. In consequence of the organic nervous depression we have, for example, labored respiration from pneumogastric failure even where the lung can not be shown to be much involved. The general depression and the severity of symptoms not to be accounted for by signs discoverable upon physical examination, differentiate the disease from ordinary "colds." Besides this disproportion of symptoms to signs, there are a number of minor points—for example, general soreness or aching, or localized pain, such as infra-orbital or supra-orbital neuralgia, and the neurotic character of many symptoms such as dyspnœa and cough and cutaneous hyperæsthesia. The general course of the affection is likewise significant. It is rarely confined to a single physiologic apparatus, but beginning as a coryza or a tonsillitis may end as a diarrhœa, or beginning with gastric symptoms terminate as a broncho-pneumonia or a laryngitis.

When the true nature of cases is not recognized and they are allowed to go untreated, or rest is not part of the treatment, serious sequelæ are often developed. It was the observation of such sequelæ, and especially of chronic broncho-pneumonia in children attending the Medical Dispensary of the Jefferson Medical College Hospital during my early years of service there, that first impressed me with the facts recorded.

Dr. Seiler—The diversity of opinion as to symptoms and treatment lies in the fact that we indiscriminately speak of grip, influenza, and la grippe. We also speak of fever and catarrhal pneumonia. High temperature does not constitute fever. The disease consists of infiltration of the mucous membranes as a result of an intoxication. In American grip, the benzoate of soda is the best remedy. In influenza, quinine is of service. The treatment of the sequelæ is to be guided by their character.

Dr. Curtin—As to the effect of quinine, as stated by Dr. Seiler, I recall three cases of insanity following influenzal attacks, which occurred before any treatment was instituted.

Dr. Watson—It may be that Dr. Seiler has in mind catarrhal fever. In that affection there may be low temperature, moist tongue, and all of the symptoms which he has described.

As to antidotes, I have used benzoate of sodium in many cases, but did not get any better results than from other remedies, as salicin and the salicylates. I have seen five cases of insanity following influenza where quinine was not used, and many cases persistently using it which did not become insane. This should be distinctly stated lest Dr. Seiler's experience should be understood to be the usual one.

#### AMERICAN MEDICAL ASSOCIATION.

The committee of arrangements has worked indefatigably on the matter of transportation rates, trying to get a round trip for a single fare.

By advice of Mr. T. H. Goodman, G. P. A. of the S. P. Co., who furnished the addresses, we sent out circulars to agents of all roads interested in this matter.

About one-half of those replying favored our petition and promised to advocate it before their respective associations, through which all such matters must be arranged.

The following communications from Mr. Goodman place the matter as it now stands in a clear light.

“ SAN FRANCISCO, March 16, 1894.

“ *Dr. R. H. Plummer, Chairman Committee of Arrangements, A. M. A., 652 Mission St., San Francisco:*

“ DEAR SIR—This morning's mail brings us your yesterday's letter, handing for our perusal three letters from Eastern railway officials. Having read the letters you sent we return them herein, and beg to emphasize our previous statements to you in person and by letter, that the trans-continental roads have virtually done what you ask, namely, accorded a one-way rate.

“ In other words, the rate for a thirty-day ticket from Missouri river points to San Francisco is \$60. Excursion, that is round-trip tickets, Missouri river points to San Francisco and return, are being sold to-day at a rate of \$65.50. Such tickets require the going trip to be made within fifteen days from date of sale and the return trip within fifteen days after the day upon which the ticket is signed here, in presence of a railroad agent, but in no event later than July 15 next.

“We have told you that within the State of California we ignore this fifteen-day limit on both going and returning trips; in other words, that the holders of the tickets are at liberty to

move at will within the State of California, within the life of the ticket, and that the fifteen-day limit returning is not enforced west of our terminals at Portland, Ogden and El Paso.

"You have asked our permission to state positively that these Midwinter Fair rates would be in force at the time attendants at your convention will want to move westward. We have replied that the traffic is west-bound traffic, and that we do not control the matter. You will doubtless, however, recollect our telling you that this rate would, in all probability, hold until after that period. We gave you our reason for that statement, namely, that one of the roads had announced that it would continue the sales up to June 30.

"We appreciate your desire for an authoritative statement in this regard. As we can not make it, we will write you that we feel you are quite safe in stating the fact that such rates have been announced, and that the sale would continue until that date.

"We beg to again call your attention to one point which is quite material in this matter. The trans-continental roads having virtually done what you asked, you should bring all the influence to bear that you can upon the roads east of the trans-continental roads. Those roads are, for the most part, the ones forming the Western Passenger Association, the Central Traffic Association and the Trunk Line Association. The Western Passenger Association roads lie between the Missouri river and Chicago and St. Louis. You should go to them for a rate similar to our Midwinter Fair rate. They tell you their rate will be \$20, Chicago to Missouri river and back, and \$12, St. Louis to Missouri river and back. As the single trip rate, Chicago to Missouri river, is \$12.50, and from St. Louis \$7.50, you will see that their rates are not reduced nearly as much as the trans-continental road rates. Can you not, through some of your profession at Chicago, approach the general passenger agents of the lines leading from Chicago, whose names we have given you? We think they will appreciate the importance of the occasion.

"One of our assistants has in hand the matter of reduced rates locally, and you will be shortly advised.

"Respectfully yours,

"T. H. GOODMAN."

Extracts from letter of February 12, 1894:

"The rates thus continued are as follows: \$65.50 from Missouri river points, being Sioux City, Council Bluffs, Omaha, Pacific Junction, St. Joseph, Atchison, Leavenworth and Kansas City; \$77.50 from St. Louis, Cairo, Memphis and New Orleans.



"The rates mentioned to you exceed the one-way, thirty-day rates as follows :

"That from the Missouri river by \$5.50.

"That from St. Louis, Cairo, Memphis and New Orleans by \$10, and that from Chicago (\$85.50) by \$13.

"We deem it but proper to here mention that if our Shasta route, between San Francisco and Portland, is passed over on either going or returning trip from Missouri river, St. Louis or Chicago, the rate will be \$15 greater.

"As on this occasion passenger movement is from the east to the west, it is but proper that the question of rates should be taken up with officials of eastern roads. We suggest, therefore, that you correspond first with those who have charge of the passenger traffic of the so-called Trans-Continental Association roads. They are as follows :

\* \* \* \* \*

"For rates from the territory lying beyond the Missouri and Mississippi rivers, you should address Mr. D. B. Caldwell, chairman Western Passenger Association, Chicago ; Mr. F. C. Donald, commissioner Passenger Department Central Traffic Association, Chicago ; Mr. L. P. Farmer, commissioner Passenger Department Trunk Line Association, New York ; Mr. M. Slaughter, assistant commissioner Southern Passenger Association, Atlanta, Ga."

\* \* \* \* \*

From the foregoing communications it will appear that, while we have not been wholly successful, if the roads between the Missouri river and Chicago and between Chicago and Atlantic points, where local travel far exceeds that over the Rocky Mountains, will give the same reductions as the roads from the Missouri river points to San Francisco, we will practically have a single fare for a round trip.

Can not the profession in the East, by united efforts, secure these concessions?

The time is growing short, and chairmen of the several sections should send in their reports, etc., for insertion in the programme.

K. H. PLUMMER, *Chairman.*

*San Francisco, March 25, 1894.*

# N. O. Medical and Surgical Journal,

ESTABLISHED IN 1844.

PUBLISHED MONTHLY, \$2.00 A YEAR.

Articles from physicians are respectfully solicited. All articles, news and exchanges, and books for review, should be sent to the EDITOR, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL. Business communications should be addressed to the BUSINESS MANAGER, NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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DR. H. W. BLANC.

DR. A. W. De ROALDES

DR. R. MATAS.

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## Editorial Articles.

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### STATE MEDICAL SOCIETY—STATE MEDICAL LEGISLATION.

The next annual meeting of the State Medical Society will be held next month. The gentlemen charged with the gathering of papers report gratifying progress, and we will probably have a very successful meeting in a scientific way. The coming meeting will also witness a renewal or continuance of the fight over the Medical Practice Bill.

It will be remembered that, at the last meeting, a Committee of One Hundred was appointed to forward the interests of the Medical Practice Bill. Last December a part of this committee met, in conference, a committee from the homœopathic element. A report of this conference was published in the January number of the JOURNAL.

This conference gave the homœopaths a degree of recognition that they never before enjoyed; and they, in turn, gave all they could give—which was nothing. The fruit of this conference is the draft of a bill, prepared by the chairman, Dr. I. J. Newton, copies of which have been sent to members of the society for expressions of opinion.

The proposed bill is remarkable, inasmuch as, if made a law, it would defeat the very object that it ostensibly aims to carry

out. It also contains, we fear, the germ of the disruption of the State Medical Society. Section 3 of the bill forms the groundwork of the plan. It says: \* \* \* "That the medical examiners, herein provided for, shall consist of two boards—one of allopathic physicians and surgeons, and one of homœopathic physicians and surgeons. There shall be at least five members of each board, any three of whom shall constitute a quorum for the purpose of holding an examination and granting a certificate. All the members of both boards shall be graduated physicians and practitioners. The board composed of allopathic physicians and surgeons shall examine all applicants who propose to practise the allopathic system of medicine, and the board composed of homœopathic physicians and surgeons shall examine all applicants who propose to practise the homœopathic system of medicine. The certificate of either board shall be conclusive of the efficiency of the applicant examined by said board. All examinations held by the board and the answers of applicants shall be in writing and shall be filed and kept as records. All the members of both boards shall be appointed by the Governor of the State from a list of names presented by the Allopathic State Medical Society, and the Homœopathic State Medical Society. And the Governor shall have the right to fill all vacancies occurring in the boards, and to remove any or all the members thereof for inefficiency or for neglect of duty.'

The first thing that strikes the reader is the objectionable way of styling *regular* physicians *allopaths*. That is a trifle, though, in comparison to the rest of the section. The section creates two distinct boards, which obviously thwarts every aim of the proposed law. Our object is to protect the public health by requiring that physicians desiring to practise in our State shall meet certain requirements—in other words, shall come up to a certain standard. What is the use of making any attempt to set a standard when the very existence of two boards would indicate that there are two standards? One may be right, but the other must be wrong; or, both may be wrong in the sense of not being high enough. The creation of two boards, each with its own standard of qualification, is an absurdity.

We make bold to assert that the people are entitled to

protection against incompetent practitioners of medicine. The laity, however, can not pass judgment upon the fitness of a man desiring to practise in a community. The people look to their medical advisers to frame such practical measures as will prevent the entry of incompetent men upon the field of practice. The profession, feeling its responsibility, has, through its State Society, taken the initiative and presented for acceptance bills framed on a liberal basis. Twice the measure has failed to pass the Legislature. We have already reviewed the causes that led to the defeat of the bill. We will, for the present, confine our attention to one factor, which shows itself in Section 3 above mentioned.

The homœopaths have from the first harped on one string: they were being singled out for persecution by the regular profession. They were martyrs; and on the strength of their martyrdom they received the sympathy and hearty support of one of the great daily newspapers of New Orleans. The editor of this paper, who has homœopathic proclivities, has, from a mistaken sense of chivalry, leagued himself with the powers of darkness and retrogression. The protection of the public is the keynote of the efforts of the regular profession; obstruction seems to be the tactics of the homœopaths. The regular profession took the initiative and framed a measure looking to the protection of the public; the homœopaths not only did not seek to initiate the good cause, but threw obstacles in the way, when more enlightened and progressive men had started it (although it might be said that they, being in the minority, could not well take the first step). The regular profession recognizes that a certain amount of knowledge is absolutely essential to render it safe for a physician to practise on people; the homœopaths have, by their persistent obstruction, thwarted every attempt made to elevate the standard of the profession.

Let it be clearly understood that the regular profession is endeavoring to prevent the future entry of unqualified physicians into Louisiana. The only practicable way to do that is to exact a minimum of knowledge which shall be accepted as a working standard.

After the second failure of the Medical Practice Bill to pass through the Legislature the JOURNAL advocated a confer-



ence with the homœopaths, to find out what they wanted, for it was recognized that they, with the assistance of the aforementioned newspaper, had largely contributed to the defeat of the bill. We have not personally heard from the homœopathic committee, but we may safely infer that the proposed bill contains the concessions which they demand. We now know what they want, and we unhesitatingly say that they want too much. A mixed board could be tolerated, since it would be possible to maintain a reasonable single standard; but to have two boards is out of the question. The people, whose taxes would support the two boards, would have a right to ask how much protection against incompetent men these two bodies could afford.

The protection of the public health does not seem to enter into the calculations of the homœopaths. The bills drawn up by the State Medical Society were not retroactive; no law can be retroactive in the United States. Those gentlemen who are now administering to public necessities on Hahnemannian lines can not be disturbed in the practise of their methods, but any newcomer would have to prove that he knew enough to make it safe to practise on human beings before being allowed the privilege of doing so. If he should fail to come up to a reasonable standard, so much the worse for him, but so much the better for the people. The same law would apply to members of the regular profession.

The homœopaths want representation; and, incidentally, it would seem as though they wanted to defeat the whole movement. They can secure adequate representation on a mixed board. Nobody wants to oppress or persecute them; but we do want to protect the public by raising the standard of medical education. The board would not be composed of pirates or pickpockets, but of fair-minded gentlemen eminent in the profession, who would scorn to inflict a wrong on a deserving person, but who would unflinchingly do their duty in protecting the public. The reason of their existence would be the exclusion of unworthy men, not the oppression of the homœopaths. The homœopaths are not martyrs, but a handful of querulous obstructionists.

## SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

The article of Dr. Adrian Hava in this number of the JOURNAL revives a subject that has always been one of interest. In former times, when chemistry was not pursued as it now is, and imagination and faith were more potent than in these days of hard facts, the subject of the so-called spontaneous combustion of the human body received a large amount of attention from grave writers. Novelists also seized upon it as a means of stirring up the souls of the credulous; indeed, as Woodman and Tidy aptly say: "There is no subject in the whole range of medical jurisprudence on which so much romance has been built as upon this. Nearly all popular novelists and great writers have embellished their works by the introduction of some story of this kind, or amused themselves by telling or retelling some of the current legends on this subject. The disappearance of the rag and bottle dealer in Dickens' 'Bleak House' is perhaps one of the best of these. Dickens, however, did more than merely use the incident. He thoroughly believed in the possibility of the occurrence."

That the charm which this subject has for novelists has not yet died out is shown by its introduction by M. Emile Zola, the great French apostle of naturalism in literature, into one of his latest novels, "Doctor Pascal."

In the *Dictionnaire de Médecine*, 1834, Vol. VIII, Breschet quotes from Dupuytren, who seems to have given the subject close and earnest attention. Dupuytren speaks of an old woman who had been addicted for many years to wine and other alcoholic liquors. This woman, after arriving at home, placed herself as usual over a *chaufferette* (or foot-warmer), was asphyxiated by the vapor from the charcoal, and fell in such a position that one leg rested on the *chaufferette*. The skin was burned at several points and entirely destroyed at others. The subcutaneous fat, which was very abundant, melted and fed the flames, which gradually extended to all the parts. The clothing of this woman, and the bed curtains, were attacked by the flame, and consumed. The floor was covered with a yellowish, fetid, greasy layer several lines in thickness and mixed with the *débris* of the body. Dupuytren thought that in this case the fire first attacked the clothing and then burned the body,

the organs of which—and chiefly the adipose tissue—were saturated with alcohol, and consequently in a condition favorable to combustion.

With the improvements in architecture, ventilation and heating, the occurrence of combustion of the human body became more and more infrequent. Nowadays, most people dismiss it with a sneer. In a work on medical jurisprudence not more than a month old, Witthaus and Becker say: "Spontaneous combustion of the human body has been seriously discussed in this connection, and explanations of popularly reported cases have been attempted. The writer refers to the subject here for the sole purpose of stating that no trustworthy evidence of the possibility of any such condition or result exists."

This phenomenon will henceforth be counted among the sober facts of science, and no longer be allowed to be thought worthy of a place only in works of fiction; and we are proud to know that the discovery is due to one of our New Orleans physicians.

Dr. Adrian Hava's attention was drawn to this subject about fourteen years ago, and he has, with various interruptions, pursued his investigations during all that time. The difficulties that beset his path were numerous, but he kept on, and now success has crowned his efforts. He has shown, by experimenting on lower animals, that animal tissues can be so prepared that they can ignite and burn like a piece of wood or other combustible material. These experiments are not devoid of danger; on one occasion an explosion almost destroyed his sight, and he frequently inhaled some of the poisonous gas himself.

The term "spontaneous combustion" is a misnomer. The phenomenon can not be produced without contact with a pre-existing fire; the body does not burst into flames, by itself, but when a suitable body becomes ignited, it continues to burn until all of the more combustible tissues are consumed. "Spontaneous combustion" must give way to "increased combustibility," and skepticism and sneers must cease in the face of experimental evidence.

The JOURNAL has published abstracts of reports of this

strange phenomenon. The last one that came under our notice was one that appeared in the *Manchester Medical Chronicle*, April, 1891. The case occurred in the neighborhood of Manchester, on February 9, 1891, and was observed carefully by a sober-minded British coroner, Dr. Ernest M. Reynolds. In a critical report of this case, Dr. Reynolds does not for a moment question the reality of the phenomenon; the circumstances were such as to make any other explanation impossible; but he was unable to divine the cause that brought about the increased combustibility. He says: "Can there be any truth in the old theory that in certain persons chronic alcoholism leads to a deposit of something in the tissues, which renders them highly inflammable? The rarity—in fact, almost the non-existence—of increased inflammability in any but old alcoholics leads one to think that there must be some truth in this view, but what the inflammable substance is, or where it is deposited, is a complete mystery."

This remarkable phenomenon, known and marveled at for centuries, is now no mystery at all. Dr. Hava has cleared away the mists in which the subject has been enshrouded, and has removed it from the domain of fiction and transferred it to the great and ever-growing mass of demonstrable scientific facts.



## Abstracts, Extracts and Annotations.

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### MEDICINE.

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#### REST AS A THERAPEUTIC AGENT IN CHRONIC PULMONARY TUBERCULOSIS.\*

By KARL VON BUCK, M. D., Asheville, N. C.

The author calls attention to the tendency to overestimate its value and to recommend rest as a general means for a cure, and objects to its application with this view. Rest in bed for prolonged periods is not conducive to the best nutrition of the healthy subject, and under its use he suffers in loss of strength, the digestion is likely to become deranged and the muscles become soft and diminish in size. The same is true of the patient who has a tubercular deposit in his lung without any existing complication—that is, in the so-called early stage of the disease. He, as a rule, requires restriction of physical and mental labor, because of previous inherited or acquired nutritive disturbances which were the cause that made the tubercular infection possible, but absolute rest in bed is not only not indicated—on the contrary, out of door life and a proper amount of exercise limited to come short of producing sensible fatigue is highly essential for a cure.

It is only in certain complications which may or may not arise in the course of chronic pulmonary tuberculosis that rest in bed is essential until their removal is accomplished; chief among these are pleurisy, hæmorrhage and septic fever. In pleurisy and hæmorrhage the patient takes voluntarily to his bed—not so with septic fever, especially when it is mild or intermittent, and, indeed, many practitioners allow their patients to be about and even advise exercise regardless of its presence.

Septic fever only occurs when other pathogenic germs have gained entrance to the tubercular deposit, and without such additional infection tubercular deposits do not undergo suppurative and destructive changes; on the contrary, they remain quiescent for indefinite periods and tend to fibroid changes, encapsuling and atrophy of the tubercular tissue. Rest in bed can not prevent the additional infection, neither can it hasten the fibroid process, since it is only with more or less difficulty that we can keep the early stage patient at his best under long rest in bed.

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\*Read in the Section of General Medicine, Pan-American Medical Congress.

When septic fever has once been established, its importance is such that for the time it controls the entire situation, and no direct treatment by supposed specifics can be of avail, but such efforts frequently result injuriously and direct the attention from the main issue. Rest in bed is now necessary, not because the patient has tuberculosis, but because the accompanying septic fever damages the heart, inducing degenerative processes in its muscular fibres and causes other deleterious effects upon the organism, all tending to wasting and exhaustion of the patient.

Even before septic fever occurs, the heart is called upon for extra labor on account of the obstruction to the free pulmonary circulation caused by the tubercular infiltration of the lung, and on that account exercise and labor need to be restricted from the beginning in every case. The presence of fever calls upon the heart for extra labor still, and at the same time tends to diminish its contractile power, thus leading to passive congestion, hæmorrhage and defective nutrition of the involved lung tissue, favoring the advance of the destructive process.

The indications are, under such circumstances, to secure a good heart action, and to preserve it by lightening the heart's labor.

For the former purpose, the author depends upon proper feeding and stimulants, and for the latter upon rest in the recumbent position, the same as he would in any prolonged febrile state.

More severe septic fever does, however, not yield to these agents alone, and while rest is of the greatest importance, and shows its effect by amelioration of the patient's condition, the complication is not controlled, and the patient goes down only at a slower pace.

Here the author finds hydropathic treatment and the subcutaneous use of nitrate of strychnia very useful as frequently helping the patient through the critical periods. In connection with the enforced rest he makes also use of massage, and electricity, and exposes the patient to out-of-door air and sunlight; but when improvement is well under way and the temperature has remained normal, or nearly so, for several weeks, he allows the patient to go out, and the general out-of-door life and limited exercise are now as conducive to improvement in the advanced as they are in the early stage of the disease.

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#### PAIN IN BLOOD VESSELS.

This was the subject of some of the remarks by Professor Nothnagel before the Royal Imperial Society of Physi-

cians of Vienna. The speaker said that through numerous observations he had concluded that arteries may be the seat of pain which, in many cases, must be referred to the wall of the vessels. He has observed pain of this character with and without anatomical alterations. This symptom is, above all, of diagnostic value for beginning aneurism of the aorta. He did not allude to pain caused by pressure on neighboring nerves, but to a fixed pain always in the same situation near the sternum. It is experienced at a time when there are no physical signs of an aortic aneurism. The vessels are painful also in arterio-sclerosis of large trunks, such as the aorta, femoral, iliac, etc. In many cases the patients complain of vague pains in the back and abdomen, which, without decided foundation, are regarded as of neuralgic or rheumatic character. In all probability these pains originate in the wall of the thoracic or abdominal aorta. In many case an apoplexy supervenes, after the patient has, for several preceding days, complained of severe headache. At the autopsy we find an extravasation dependent upon a diseased artery. In such a case, what does the severe headache signify? It can not be due to ischæmia, because the cerebral substance is insensitive. Neither can it proceed from the dura or pia mater, because the circulation through the meninges comes from the circle of Willis. The pain must, therefore, be derived from the arterial wall itself. Professor Nothnagel has, in fact, made use of these pains in the differential diagnosis between hæmorrhage and thrombotic softening. Severe headache without intense arterial congestion testifies, in his opinion, to thrombosis in consequence of disease of arteries. Arterial emboli also excite severe pain on account of the adhesion of the embolus to the arterial wall.

As in the angiospastic migraine of du Bois-Reymond, arterial cramps also take place in the extremities. They depend upon ischæmia, and are associated with prickling, hyperæsthesia, and pain, especially in the forearms. We might, by the analogy of such terms as hepatic colic, renal colic, etc., call these pains vascular colic. The explanation of the occurrence of pain in vessels is not easy, since sensory fibres have not been traced into those tubes. Thomé, however, has found Pacinian corpuscles in the adventitia of the larger vessels, and it is possible that the pain may be due to pressure upon those bodies by a periarteritis accompanying the aneurism or arterio-sclerosis.—*Deutsche Med. Zeitung*.—*Med. Bulletin*.

#### ON THE INFLUENCE OF TOBACCO ON TUBERCLE BACILLI.

At a recent meeting of the Gesellschaft der Aerzte, in Zurich, Dr. Kerez (*correspondenz-Blatt fuer Schweizer Aerzte*,

January 1, 1894, p. 19) has communicated his experimental researches, undertaken with the aim to elucidate, whether there exists any danger of contracting tuberculosis through smoking cigars prepared by phthisical workers. In brief the experiments were arranged as follows: a certain number of cigars were made *lege artis* and infected with a virulent tubercular sputum by introducing it in small quantities under a cigar's enveloping or covering leaf (*Deckblatt*). Simultaneously, a corresponding number of paper strips were smeared with the identical discharge and put into sterilized test tubes, to be kept, side by side with the cigars, at some warm spot for periods varying from ten days to five weeks, after which the cigars' envelopes and the paper strips were washed out with sterilized water, and the respective "infusions" injected into the peritoneal cavity of guinea-pigs. In addition, a set of the animals were similarly inoculated with a pure tubercular sputum derived from the same specimen as had been used for infecting the cigars and strips. The following results were obtained by the author:

1. All the control animals just mentioned developed the usual symptoms of tuberculosis.

2. All such animals which had been inoculated with "tobacco infusion (*tobak infus*)" or "paper infusion (*papier infus*)," prepared from the said materials of five or four weeks' standing, did not manifest any signs of tubercular infection.

3. The inoculation with "paper infusions" made of the strips of ten, fourteen or twenty-one days' standing was invariably followed by the development of tuberculosis.

4. The inoculation with "tobacco infusions" gave rise to the disease only in such case where a cigar's contact with the virus had lasted not longer than ten days.

5. The microscopical examination of sediments from the "tobacco infusions" showed that cigars of ten days' standing still contained fairly numerous tubercle bacilli, but in those of longer standing the number of the bacteria proved to be always exceedingly scanty. Meanwhile, in the corresponding "paper infusions" the numerical strength of tubercle microbes varied between "abundant (*reichliche*)" and "middle (*mittlere*)."

From the facts sketched above, Dr. Kerez draws the conclusion that (1) tobacco exercises a destructive action on tubercle bacilli, and (2) that a tubercular infection through cigars prepared by phthisical workers is practically impossible, since newly made cigars require about four weeks for assuming a tolerably dry condition, and, actually, can not be issued by factories before the lapse of the period.—*Provincial Medical Journal*.



## TREATMENT OF PRURITUS.

Dr. A. T. Thompson recommends the following (*Med. and Surg. Rep.*):

R Plumbi acetatis .....	gr. xvj.
Acid hydrocyanic, dilut .....	℥iss.
Spirit rectificat.....	℥ss.
Aquæ destillatæ.....	℥vijs.

M.

Sig. Use a wash.

Dr. E. B. Bronson, who has given this subject much attention, says, in the course of an article (*Am. Lancet*):

Carbolic acid is the most reliable and most generally useful antipruritic which dermatologists possess. It was well named by Unna "the opium of the skin."

The following "antipruritic oil" has been much employed by the author for years, both in a local and so-called universal form of the disease, with no more untoward results than now and then a trifling dermatitis when through oversight the patient has been allowed to make the applications too frequently or has continued them too long. The formula is:

R Carbolic acid.....	℥i-ij.
Liquor potass.....	℥j.
Ol. lidi.....	℥j.

M.

Sig. Shake before using.

To correct the disagreeable odor of the linseed oil a drop or two of the oil of bergamot may be added. Salicylic acid and salol, though less energetic in their effects, act similarly to the carbolic acid. Thymol is also an admirable antipruritic, but on account of its irritating effect can not be used when the skin is sensitive.

In *pruritus hiemalis* an all-important measure of treatment is protection against cold. The sole cause of winter pruritus, aside from a special predisposing hyperesthesia, is lowered temperature.—*St. Louis Med. and Surg. Jour.*

## QUININE IN ASIATIC CHOLERA.

In the *Gazeta Lekarska*, No. 46, 1893, p. 1226, Dr. Antoniusz Fr. Dembczynski, of Kolo, states that during the last cholera epidemic he obtained good results from subcutaneous injections of bisulphite of quinine in 20-grain doses, the effects being equally beneficial in all stages of the disease. Especially striking the drug's action proved in four apparently moribund patients in the terminal period of cholera in whom, contrary to all expectations, the injections cut short the course of the disease, recovery being complete and rapid. Of

other drugs the writer found useful calomel (when administered in the initial stage of the affection), and menthol (as a means for controlling vomiting). Unfortunately, an overwhelming majority of his patients (mostly Jews) firmly refused to swallow, or to be injected with, any remedies whatever, and that on this simple ground that, according to their suicidal and homicidal theory, the cholera was nothing else than a "God's visitation," which must be cordially thanked for by all sinners (including their infants), and tolerated as cheerfully and patiently as possible under the circumstances given. [A quinine treatment of Asiatic cholera has been also advocated by Drs. Niedzwiedcki and Iashvili, etc.; *vide* the *St. Louis Medical and Surgical Journal*, October 1892, p. 251, and December, p. 366.]

#### THE LEUCOCYTES, OR THE WHITE GLOBULES IN THE BLOOD, AS PROTECTIVE AGENTS OF THE ECONOMY.

It is our intention, in this article, to give only a résumé in connection with recent discoveries on the subject of natural and acquired immunity. An immunity which not only will prevent infectious diseases, but also moderate their course or extinguish them altogether, by dislodging the elements of infection themselves; their residue, the ptomaines, or finally, the infected humors of the animal afflicted. We may say at the outset that this study is one of great importance, and the researches which it has elucidated are bound to make an impress on our views of bio-histological questions. It has already been more fruitful than the most ardent could desire, and we look hopefully to the near future for the solution, through it, of many obscure points in the pathology of febrile diseases. It is but a short time since the functions which the leucocytes exercise in the economy were enshrouded in profound obscurity.

We now recognize them through the use of the microscope; we can see a host of microbes in enormous profusion scattered through the air, the water, in our clothing, on the integument, on the mucous membranes, in the digestive and aerian passages. These organisms are endowed with an endless tenacity for life. By their minute proportions they can penetrate the finest pores; they can endure, many of them, both freezing and boiling. They multiply at an enormous rate. These are found in great numbers in man and the higher animals.

The epithelial investment of the skin provides a formidable barrier to the entrance of microbes. Nevertheless, even

with this protection many of them make their way through the corneous layer into the blood and are disseminated through the economy.

Now, then, how is the system fortified against the ever constant assaults of these myriads of infinitesimal living colonies? Mainly in three ways.

1. By the oxygen in the blood and tissues.
2. By the phagocytic power of the leucocytes and other cellular elements.
3. By the bactericidal power of the various humors.

It is necessary to say but a few words on oxygen accumulated and scattered by the blood through all the tissues—it renders life impossible to all micro-organisms, which are anærobian, viz.: those which develop by contact with the air. Indeed, it may be said that oxygen occupies the first place as a destroyer of the microbe of the anærobian species, as the bacillus of tetanus or the malignant œdema of gaseous gangrene. Therefore, as the potency of oxygen as a bactericide needs no further consideration, we pass on to the second, viz.: The phagocytic power of the white corpuscle and a certain number of other cellules.

Without doubt the father of the phagocytic doctrine is Metchnikoff, who, by his studies on the lower animals, arrived at a conception of certain cellular changes in the higher animal, particularly those in the leucocyte, which he found, gathered within its wall and assimilated different microbic elements. The principal argument advanced by Metchnikoff is based on a very common phenomenon; he observed that in a microbic infection, terminating in recovery, in the invaded regions, there was an abundant accumulation of leucocytes filled with microbes and their *debris*. While, on the contrary, in mortal cases there was no such accumulation, or it was of no significance and no importance.

According to Metchnikoff and his partisans, cure followed when the leucocytes were present in sufficient number on the ground to do battle with the aggressors; but when this accumulation was not ample, the invasion of the economy became general.

But this very beautiful theory has not convinced everybody.

The adversaries of Metchnikoff contend that the appearance of leucocytes in the invaded region is but a coincidence of a secondary phenomena, having for their purpose to carry and bury the microbes which have been destroyed by the serum or the humors. The partisans of phagocytosis answer this by suggesting *cum hoc, ergo propter hoc*.

Metchnikoff and his followers have endeavored to support their position by proving that the white corpuscle takes up the germ in a living state. This decides the whole question, and here the burden of proof is demanded.

They answer that organisms in the interior of the globule have been seen moving, presenting various movements.

But this argument will hardly hold, because:

1. If these movements are slow we do not see how they can be distinguished from those produced by the protoplasm in the white globule.

2. If they are active it would seem to surely indicate that the leucocyte is dead, because we can not understand a viscous particle, as living protoplasm.

This neither is a decisive argument. But from what can be gathered from the most reliable sources it must be admitted that the general trend goes to support Metchnikoff's views, in the main, viz.: that the leucocyte does envelop the living microbe. But, does that prove that it is the master? On the contrary, if there is a conquest it is on the side of the microbe which now holds the fort.

Our experiment lately made with the aid of Mr. Hart has contributed toward clearing the atmosphere of many obscurities, and places the subject in a clearer light.

1. The leucocytes of the blood do absorb the living microbes.

2. They perish in this interior, but not by any power of digestion as pretended by Metchnikoff.

Our operative procedure was very simple. The ordinary microscopical examination of the blood will not do here. It must first be defibrinated, infected and prepared on special plagues; then after varying periods we are prepared to proceed with our experimentation. We selected the blood of the dog and employed as an infecting agent the *bacillus communis* from the large intestine of man, and obtained the following results: Here the author presents an elaborate decimal table of the results after varying periods of time, with mixtures of blood, concentrated and reduced, with the microbes. By these experiments he was enabled to arrive at an exact idea of the destructive power of the blood of the dog on the common bacillus. He noted that in one cubic centimeter of blood which contained 4,000,000 bacilli, after one hour this number was reduced to 200,000; after two hours, 7000; after six hours they had all perished.

These experiments were repeated with three different microbes—the common bacillus of the intestine, the staphy-



lococcus pyrogenus and the spores of the bacillus of barley. The results were practically the same in all.

When, by filtration the leucocytes were partly eliminated, the bacilli, instead of diminishing, increased in numbers, from which it is concluded that the loss of bactericidal power was due to the elimination of the leucocytes which give the microcidean power to their possessor.

It might be objected, that though these experiments have established the truth of the bactericidal power of the white globule, it does not necessarily prove that they embrace and digest the living germs.

But the repeated and crucial tests to which we carried our experiments incontestibly demonstrated, not only that the leucocyte possesses bacterial power, but that it absorbs the living bacillus and then destroys it in its interior.

Laudable pus was taken and mixed with the non-filtered blood which had been diluted. Here, again, an extensive set of tables with the most minute precision set forth the phagocytic potency of each preparation. From all of which the author concludes that "there is no better fact established in medical science than that the leucocytes absorb the living microbes and digest them, and that this is the most potent of all factors in destroying infection by pathological microbes."

In the next issue the author promises to set forth in detail the share which the serum plays as a germicidal agent.—*Times and Register*.

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## SURGERY.

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### PHARYNGO-MYCOSIS.

By HOMER M. THOMAS, A. M., M. D., Chicago, Ill.

The term pharyngo-mycosis signifies a fungoid condition of the pharynx. It is a parasitic affection of the mucous membrane of the mouth, and manifests itself in white patches of varying sizes. These are found to contain epithelial cells and parasitic forms of a vegetable nature, the distinctive ones being called leptothrix threads. The tonsillar crypts of healthy persons are sometimes more or less plugged by these vegetable masses, but it is only when the plugs are large enough to project slightly over the surface that they come under observation. Mycosis leptothricia occurs in two forms, diffused and circumscribed. In the diffuse form the entire tongue is coated with a shiny, milk-white mass, which is frequently of sufficient density to obscure from view the filiform papillæ. Movement

of the tongue and sense of taste are not lost, and there is no interference with the general health. In the circumscribed form white, glistening points appear, resembling those seen in follicular tonsillitis, except that the mucous membrane about them preserves its normal pink hue. The tonsils, pharyngeal wall and base of the tongue are apt to be invaded. White, or yellowish gray spots, usually hard, are arranged in groups or singly, and form little excrescences on the normal mucous membrane. They adhere firmly to the surrounding parts, and reappear if removed by forceps. The *leptothrix buccalis* is found in carious teeth and in the accumulations known as tartar; a microscopical examination of the secretions of the mouth will almost always find them. You should look for these collections in the lymphatic tissue at the base of the tongue, in the faucial tonsils and in the adenoid tissue of the vault of the pharynx.

Some of these white spots resemble a mushroom in shape; others are like pointed cones. The mass seems to be in layers, the outer one being easily smoothed off, while there is a deeper and harder substratum in the shape of little plaques. These little excrescences have their attachments on the surface and in the openings and depressions of the tonsils, or on the palatine arch; often on the posterior pharyngeal wall, the side of the pharyngeal wall being sometimes involved. When occurring on the tongue they have their attachments in the region of the large papillæ. Sometimes this mass is cheesy and easily removed; sometimes tough and stringy, running deep into the follicles, being very tenacious and difficult to remove. B. Frankel, of Berlin, first pointed out, in 1873, an abundance of *leptothrix* threads in these products, and since then this has been noted by many observers.

However numerous these small whitish projections may be, each spot is isolated, and they never form a continuous mass. After the tonsil, the glandular subtissue at the base of the tongue is most frequently affected; and the growth here may be extensive, the masses attaining the size of a pea. In some cases mycosis involves all parts of the pharynx.

*Pathology.*—The gross appearance of the lesion is that of discrete white spots, which may be connected here and there by scanty thread-like filaments. The mucous membrane covering the tonsils is the part most frequently invaded. In so-called fetid bronchitis the *leptothrix* threads have been found in the tracheal mucous membrane, in the characteristic fungoid plugs; they have also been found in the sputa of pulmonary gangrene. In fourteen cases reported by Herying, the affection was confined to the tonsils in seven; in the remainder, the base of the

tongue was also affected. Six were men and eight were women. The ages varied from twelve to sixty-two, the preponderance being between twenty-eight and thirty-five.

The characteristic feature of the circumscribed form is, that although it quickly redevelops, often in twenty-four hours, in the same spot from which it has been removed by instrumentation, its extension to other points is comparatively slow; that is, new foci of the disease develop sluggishly, but when once established their tenacity of life is very great and radical methods are required to destroy them.

From diphtheria this disease may be differentiated by the persistent discrete arrangement of the exudate; the general absence of surrounding inflammation, and the masses being much harder than pseudo-membrane. The tongue may also be involved, which is rarely the case in diphtheria. The absence of the Klebs-Loeffer bacillus would be convincing. Mycosis of the pharynx may be confounded with cheesy masses in the crypts of the tonsil and follicular diseases of the throat, but the ease with which the cheesy masses may be expressed from the crypts of the tonsils is in striking contrast to the fixation of the mycotic masses. The constant presence of inflammation in follicular disease and an entire absence of inflammation in mycosis are distinctive of the two diseases. The exudation of follicular tonsillitis is a yellowish white; it frequently becomes confluent, and upon the application of the salt of iron it is readily disintegrated and may be largely removed.

*Microscopical Appearance.*—Microscopical appearance shows a general mass of epithelial cells surrounded by an irregular collection of fungoid spores, arranged in link-like processes, their ends being rounded or club-shaped. They vary in length, and some turn up at the ends into hair-like filaments; others are like rods—colorless, with sharp dark borders, the centres seeming to be full of granular matter. Besides these spores there are round or oval, highly refractive bodies with dark borders, arranged in colonies or placed separately between the branch spores. Staining with methyl blue brings out colored and uncolored portions on the stem spores. Jacobson succeeded in making a pure culture of these organisms. Leptothrix has the peculiarity of dissolving the chalk deposits of the salivary ducts and glands. Miller describes the microscopical appearance as a dirty, yellowish deposit varying in size from the head of a pin to a pea, consisting of numerous bacterial forms and extending deep into the lacunæ of the tonsil.

*Etiology.*—The etiology of pharyngo-mycosis is very uncertain. Mouth breathing has been suggested as the cause.

Tonsillar hypertrophy is a predisposing cause. It has been noticed as a sequel to rheumatic amygdalitis. Some observers have mentioned damp localities as favorable to the growth of this fungus. Catarrhal inflammation is a predisposing cause. It is more frequent in females than in males. Tobacco smoking is thought by some to have a preventive action. The resemblance of the bacilli to several forms found in water, especially the water from marshes, has suggested the possibility of such a source of infection. In several instances it has been observed to follow or excite affections of the pharynx. It occurs most frequently in women and children who suffer from enlarged tonsils and are disposed to chronic pharyngitis. Some writers claim that a condition of malnutrition, with an impaired state of health, may be considered as a provoking cause; others claim a causative relation between disturbances of digestion and mycosis. W. C. Glasgow believes that some peculiar condition of the mucous membrane is a necessary factor in the development of mycosis, and that it only exists when the membrane presents a soil which favors growth and development. The disease is not directly transmissible and is not contagious.

*Symptoms.*—The subjective symptoms of pharyngomycosis are variable; sometimes there exists a sensation of tickling and dryness in the throat, confined to the pharynx. Again, there may be a feeling as if the throat had a band drawn about it, giving rise to a slight choking or feeling of pressure; slight pain on swallowing, the feeling of the presence of a foreign body, attended with an irritation which causes a desire to clear the throat and to cough. In some cases these symptoms are greatly exaggerated, with depression, considerable fever and loss of appetite. The disease may exist without any symptoms being apparent to the patient, if not a vocalist. Mycosis in the throat of a vocalist produces great dryness and irritability of the fauces after a short vocal use of the throat. The voice is rather lowered in tone and inclined to be husky.

The objective symptoms are spots upon the pharyngeal wall, and often the circumvallate papillæ of the tongue are invaded. The color of the spots may be white, cream or yellow.

*Treatment.*—Dr. Kitchen has suggested hyposulphite of sodium as a means of treatment, especially if allowed to soak in well and applied repeatedly with a swab. Peroxide of hydrogen has also been recommended. Semon claims to have cured a case with chlorate of potash gargle and troches of tannic acid; Seiffert, with iodine and a gargle of borax, but doubt has been expressed as to the correctness of the diag-



nosis. Alum and sulphur have been found useless; silver nitrate resulted well in two cases that were especially tolerant to its use, but a relapse occurred later. Jacobson recommends a bichloride gargle one to two thousand. Toeplitz and others found ferric salts useless. Carbolic acid has produced negative results. All of these agents have proved unreliable, and nearly all of them useless. Fused chromic acid has given better results.

At best, superficial applications like gargles can only affect the top growth while its base remains firmly bedded in the tonsillar crypt, and the forcible rubbing on of solutions may abrade the epithelium and so permit the spread of the disease. Glasgow advocates the destruction of the organism with the cautery, or forcible extraction with the forceps where the growth has assumed a horny, thread-like character. In some cases he advises scraping of the spots with a sharp curette and applying tri-chloracetic or chromic acid freely to the surface. He has found the application of boracic acid in saturated solution of value in preventing the spread of the disease. The treatment is always tedious, with a tendency to return until all evidences of the disease have been eradicated. The most successful and certain treatment is the use of the thermo- or galvano-cautery. The bacillus frequently penetrates the tissues to the depth of one or two millimetres; hence the cauterization must be deep in order to destroy the germ. The bacillus thrives best in an acid medium. If the negative pole is used for cauterization with a large positive electrode, there is a deeper action upon the tonsil and the growth is surrounded by alkaline fluids. The point of the galvano-cautery should be thrust into the root of the growth.

I am under obligations to Dr. F. D. Owsley, of this city, for translations from the German of Sehech. I am also indebted to the writings of B. Fraenkel, Rice, Vanderpoel, Newcomb, Hemenway, Glasgow and others.

The following case of pharyngo-mycosis was kindly referred to me by Dr. Fraenkel of Berlin.

The history of the case as given by the patient, Mrs. C. B., is that during August, 1892, she suffered from a slight irritation in the pharynx. There were white spots on the tonsils, which disappeared after a few days, but returned within a couple of weeks. The physicians consulted called the trouble a mushroom growth, and said it would require two or three treatments a week for some three months to effect a cure. The treatment consisted of a forcible removal of the exudate by means of forceps. This method of treatment was attended

with severe pain and proved unsatisfactory. The patient becoming discouraged consulted Dr. Fraenkel, of the Berlin University, in November. At that time he found spots covering the tonsils and extending to the root of the tongue. His treatment consisted of swabbing the throat two or three times a week with a 5 per cent. solution of carbolic acid, and he recommended that the throat be gargled two or three times a day with pure brandy. Under this treatment the throat seemed to grow somewhat better, but still the disease was not wholly eradicated.

Having been called to this city, Mrs. B. came under my care January 4, 1893, at which time the pharyngo-mycotic deposit was very extensive upon the posterior pillars of the fauces and invaded the root of the tongue, almost completely covering it, and there were extensive deposits upon the tonsilar substance.

After having confirmed the diagnosis as made by Dr. Fraenkel, through microscopic examination of the deposit, I advised treatment, to consist of thorough applications of the galvano-cautery. The electrode selected was one made for me in Vienna, and consisted of a very fine elongated platinum point, which enabled me to introduce it directly into each one of the crypts of the tonsil affected by the disease, and also to eradicate the punctated growths at the base of the tongue. At first only three or four punctures were made at a treatment, the treatments occurring three times a week. As the patient grew more tolerant of the irritation following the use of the galvano-cautery the number of punctures per treatment was increased, until I frequently applied the cautery to eight or ten of the mycotic masses at each treatment. The effect secured has been satisfactory to the extent that the disease has not reappeared at any of the foci cauterized.

My experience in these cases leads me to believe that the galvano-cautery treatment of pharyngo-mycosis is the most nearly a specific in the management of this disease of anything we have.—*St. Louis Medical and Surgical Journal*.

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#### “ SYPHILIS INSONTIUM. ”

At a recent meeting of the St. Petersburg Russian Syphilidological and Dermatological Society, Prof. Ivan A. Maieff (*Vratch*, No. 44, 1893, p. 1233), after having emphasized the truly alarming fact that “cases of non-sexual syphilitic infection do occur ever more and more frequently,” has related the following characteristic instance from his recent practice: A young peasant girl, a *virgo intacta*, contracted—in this or that

“innocent” way—a hard chancre of the lip. Being homeless for a while, she was sheltered by a female friend of hers who was then employed as a cook by a merchant’s family, and whose master happened to be absent from town at the time. During her three or four days’ stay at the house, the girl succeeded in transmitting syphilis to the cook (through kissing). Shortly after the appearance of a labial chancre in the latter, her master, with his wife and suckling infant, returned home, which gave the cook an opportunity to immediately communicate the disease to the child through kissing. It seems almost superfluous to add that the infant, in its turn, did not fail to syphilize its mother, and that in her case the primary sore developed on a nipple. Dr. Mikhaïl A. Tchistiakoff has also reported four cases from his recent practice, one of which was that of faucial primary sclerosis in a woman of 25; another patient, a merchant’s wife, aged 19, had hard chancre of the right tonsil; in a third, a married lady, aged 24, primary sore was situated on the left mamma; while the fourth case referred to a married man of 48, a pawnbroker’s assistant, who had contracted a hard chancre of the right tonsil, presumably through handling some infected objects at the shop. Dr. Petr. I. Froloff has shown a peasant man, aged 38, in whom primary syphilitic sclerosis involved the whole left half of the soft palate.—*St. Louis Medical and Surgical Journal*.

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#### SPONGE GRAFTING.

By P. M. WHITE, Los Angeles.

For the past ten years I have met with almost universal success in the treatment of varicose and chronic syphilitic ulcerations of the skin through the use of sponge grafts. My method of procedure is as follows: Preliminary to dressing, œdema is removed as far as possible by the usual remedies. Next, small incisions are made in the edges of the ulcerations (provided they are indurated), thereby thinning them. Silk sponges of the finest quality are secured and cut precisely to conform to the depth and circumference of the sore. The sponge is thoroughly saturated with almost any antiseptic solution and pressed neatly and firmly into the ulcer. (Great care must be taken that the sponge fits accurately into the ulceration.) Thin adhesive strips are brought over the sponge and fastened to either side, to keep the sponge steady and in position till granular union is well under way. Over this I apply a single layer of cheese cloth or mosquito netting, which prevents to an extent the next dressing (absorbent cotton) from adhering to the sponge and obstructing free escape of pus. Over the whole is placed a well fitting

roller bandage (where position permits its use) and the patient is advised to keep the part quiet.

Within ten days or two weeks an examination reveals the following: The œdema surrounding the sore has disappeared, and the cartilaginous ring in which were made small incisions has given place to pliable and healthy skin. Frequently the discharge of pus is materially increased, and much pain is induced if traction is made upon the sponge. In the course of two or three weeks, if the sponge is gently elevated from its circumference, beautiful granulations are found springing up into its meshes, and bleeding is readily produced upon slight irritation. If the sponge remains undisturbed, it is gradually absorbed. If the edges are interfered with, granulation first disappears from the circumference, and a strong layer of cicatricial tissue is substituted in that portion of the sore.

As may be supposed, all cases of chronic ulceration do not immediately respond to this novel treatment. Where the granulations are strong and vigorous, no renewal of the graft is necessary; but when the ulcer is extremely indolent and the discharge sanious, granular stimulation with the sponge is slow, and several attempts may be necessary to secure the connection between sponge and granulations. All of the dressings except adhesive strips and sponge should be changed daily, till the sponge is firmly adhered, and the latter should be kept moist with any antiseptic solution (except bichloride of mercury).

Regarding the theory of action of sponge graft, very little has been said as yet; whether the sponge acts as an antiseptic in preventing the deposition of organic matter from without, or whether it has some peculiar property inherent in itself in generating sponge granulations, remains to be demonstrated. Possibly it may act merely mechanically, stimulating granulation by its presence and serving by its meshes as a support for the granulations that develop in its interior until they finally displace it by its absorption. No cicatrix results after an ulcer is closed by sponge graft.—*Pacific Medical Journal*.

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#### CONCENTRATED RAYS OF THE SUN (SOLAR CAUTERY) AS A REMEDIAL AGENT.

By O. V. THAYER, M. D., San Francisco.

Since the publication of my paper on "Solar Cautery" in the July number of the *Pacific Medical Journal*, I have been deluged with letters from physicians far and near, asking information and instructions as to the *technique* and details in the application of the concentrated rays of the sun.

I have thought best to produce in full one of the many letters received, which embodies most of the interrogatories:



“DEAR DOCTOR—I have read an article from your pen on ‘Solar Therapeutics,’ and am anxious to know something about the details. The novelty of the agent, to say nothing of the brilliant results obtained by you, in cases that ordinarily ignore special therapy, excites a deep interest, and I am extremely anxious to learn from you how I may use it as a curative agent. Any information on the subject will be thankfully received. Indulging a hope that you will kindly enlighten me how to handle a given case by this, to me, novel plan,

“I am, fraternally, thy friend,

“H. C. C., M. D.”

To satisfy the desires of the many inquirers I will give the *technique* and details of the successful treatment of one or more cases with the solar cautery.

The first step is to obtain proper lenses of pure, transparent glass from four to five inches in diameter. My favorite is four and one-half inches with a convexity that will focus the rays two lines in diameter = O. The eye of the operator should be protected by dark goggles or glasses, as the concentrated light is injurious to the naked eye. It is impossible to watch the burning with unprotected eyes. To be successful, every step of the operation must be watched with assiduous care, that no injury be done by so potent an agent.

When such surface is to be treated, especially if the subject be a child or timid person, anæsthesia is necessary, general or local. Never attempt an operation unless you have a clear sky with perfect sunlight. (The rays will not act through a window pane.) If the disease be a morbid or malignant growth, destroy the morbid tissues fully. The after treatment is the same as in general wounds. In the removals of discolorations of the skin, such as birthmarks, India ink and powder stains, etc., also capillary aneurisms (angreima) destroy only the cuticle to avoid unsightly scars.

In operating upon the surface of the skin I never continue the application longer than a few seconds at one time. Generally remove the lens as soon as the part turns a light gray color. The burnt surface should be dressed with zinc ungt., to protect it from the air. *Nature does the rest.*

CASE II. Birthmark (angioma). Mr. P., a bachelor, 38 years of age, consulted me as to the removal of a discoloration of the skin, covering the whole of one side of the face. The skin was of a vermilion color, and the surface of the same was studded with vascular elevations the size of half a small pea, which bled on the slightest injury. Operation.—At the first sitting I burned all of these elevations down even with the skin, then covered the surface with zinc ointment. The burnt surface

healed readily. At the end of ten days he was ready for the second operation, when I proceeded to burn the whole discolored surface, after which I applied the same covering as before, which was continued until the skin resumed its natural function. Some three weeks after the last operation he presented himself at my office. The change was most wonderful for the better. I still advised another application of solar heat, which was done with the result of removing the discoloration almost entirely from the face. I advised one more operation, but he demurred. Said "he was fully satisfied with the improvement already made, as he was no longer stared at by strangers."

CASE II. India ink discoloration. Mr. S., from New London, Conn., called at my office and desired the removal of an India ink mark resembling a bracelet, encircling the wrist, which was placed there many years since. It was some one-half inch wide, composed of filigree work, very pretty, but an eyesore to the bearer. I proceeded to operate by concentrating the sun's rays over the India ink, tracing each line of the filigree work, until the skin was destroyed over the ink marks. (Experience has taught me that a dark surface is more quickly burned than a light one, consequently it only requires a few seconds to destroy the skin over India ink marks.) The wound was dressed with zinc ointment as usual in such cases. I now waited a few days until the burned skin began to ulcerate. I then removed it and with it most of the India ink. What little remained was scraped off with a scalpel, after which the part readily healed.

There is no hæmorrhage following the use of the solar cautery, not even in the destruction of vascular tumors.—*Pacific Medical Journal*.

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#### BONE FILLING.

Great trouble has been found in dealing with cavities left in bone after operation for sequestrotomy and osteo-myelitis. Sometimes they close by granulation, but often there remains a fistula with a purulent discharge. Different operators have resorted to various organic and inorganic materials for filling the cavity, of course under strict aseptic methods, to prevent further destruction, after first removing all dead and diseased tissues.

Blood-clot had not been approved for filling, owing to difficulty of perfect asepsis. Bone-grafting is now on trial, with some brilliant results and many disappointments, both human bone and that taken from various animals have been used. Barth, of Marburg, has made a study of cases of

bone implantation, and thinks it improbable that the implanted piece can retain its vitality. He found that it always became necrotic, and that healing took place by connective tissue or young granulations from the remaining periosteum, after absorption of the implanted bone. Duplay and Cazin, after similar experiments, preferred to employ yielding material, like sponge or gauze, the cavity and filling both being made strictly aseptic. Moses, studying the subject of bone-grafting after trephining, concludes that it may be successfully done, but the animals furnishing the grafts must be young, and preferably from related species to the subject, and from a portion where the point of ossification is present. Ercole states that the replaced disk of bone unites by fibrous tissue, whether covered by periosteum or not. Disks of cartilage, with or without a slight layer of bone, are more likely to give bony union.

MacEwen, in one case of loss of the whole shaft of the humerus, obtained a partial reproduction of the shaft by implantation of small fragments of bone at short intervals, into a cavity formed along the former site of the bone by separating the muscles for this purpose. Wedges of bone were taken from the tibia of another person and divided into small bits, some destitute of periosteum. The operation was repeated in two months, and seven years afterward the arm was  $7\frac{3}{4}$  inches long and quite useful. Drussmann has reported two cases, one of caries of the tibia, the other of the ulna, in which the cavities, after thorough antiseptic cleansing, were filled with plaster of paris paste mixed with a 5 per cent. solution of carbolic acid. The operation on the tibia was so successful that the patient could walk comfortably. In the other case the filling had to be removed, presumably because some carious bone had been left in the cavity.

Dr. Oscar J. Mayer, of San Francisco, in view of the dissatisfaction with the materials, experimented on his own account. He was satisfied that the filling must be not merely aseptic but antiseptic and non-toxic, and found that copper-amalgam answered these conditions better than the other substances tried. As Esmarch's bandage does not insure absolute dryness of the cavity, he sponged it out with ether and alcohol, and with this precaution his copper-amalgam filling was successful in three days.

Sonnenburg also found the amalgam to stick well and have no reaction, but mixes cinnamon with it, because it hardens very rapidly and is not porous. Another useful preparation is a cement composed of four parts of zinc chloride, five of distilled water and three of glycerine. When employed it is mixed with an equal quantity of zinc oxide.

No one should undertake to fill bone cavities with copper-amalgum without practice on dead bodies or the lower animals, and the utmost care must be taken to make the cavity clean and dry, leaving no carious bone, before making the filling.—[Condensed from the *Am. Med.-Surg. Bul.*, Nov. '93.]—*Pacific Magazine*.

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#### ON THE THERAPEUTIC VALUE OF CARICA PAPAYA IN CANCER.

Dr. E. Herschfeld, Brisbane, read the notes of the above case. Papain, the digestive ferment contained in the unripe juice of the Pawpaw apple, has been in use as a medicinal agent for a considerable time. More particularly it proved valuable in diphtheria for the purpose of digesting the false membrane, and in cases of deficiency of the gastric juice it was administered to take the place of pepsine in the digestion of albumine. The preparation generally used is the dried juice of the unripe fruit as prepared by Finkler, in Bonn. Mr. W. Soutter drew my attention to the plant, and suggested that it might be possible to destroy, by its digestive properties, new growths. The idea seemed very plausible, and as a matter of fact, when looking through the literature, I found that it had been proposed for the same purpose before.

Prof. Rossbach, in Jena, advises the injection of diluted solutions of the papain in tumors of cancerous and glandular structure where extirpation is contra-indicated. However, nothing more can be ascertained beyond the fact that he recommended its administration in such cases; nothing is known whether it was accompanied by success or not. The removal of warts and hypertrophied conditions of the skin by the exhibition of papain is reported by other authors. As regards my own experience I have in the first instance to report that any hope to find in papain a curative agent for cancer was not realized. Its growth was not checked even under conditions where its application seemed to be made under the most favorable circumstances, *i. e.*, in large ulcerating surfaces, where there was the best opportunity to act directly on the cancerous tissue. This failure, however, can not come as a surprise when we consider that an epithelioma forms part of the body of the affected person, just as every other natural tissue does. If papain possessed the power of digesting living tissue, it is apparent that its action would not be restricted to the epithelial cells of the cancer and its connective tissue framework. There is no reason to assume that the connective tissue and epithelial cells when forming the normal tissue should then escape its



action. Living tissue, no matter of what nature it is, can not be affected by any digestive ferment.

In pursuing these investigations, the result arrived at was very different from the one expected when they were started. While it was a complete failure as a curative agent in carcinoma, I found it a most valuable palliative on account of certain qualities possessed by it that have hitherto been overlooked, namely, (1) its analgesic, (2) its antiseptic properties. This analgesic action of the pawpaw juice showed itself not only in cases of cancer—in a very extensive case of lupus, where the left eye had been destroyed by the progress of the disease, its effect was most striking. After the first application, which was only made on a small part of the ulcerating surface, the patient declared that the pain, which had been formerly very distressing, had gone in the part treated, while it persisted in the remainder of the ulceration. Of course such statements must always be taken *cum grano salis*. The patient, looking forward to being relieved by a new remedy, may believe such to be the case without any such improvement. The auto-suggestion will be most potent as regards the sensation of pain. But there was no doubt that in his case the disappearance of the pain was not imagined, but due to the action of the juice. (1) It disappeared only from the part treated; as soon as the juice was used on the remainder of the sore the pain went away there too; it stayed away altogether for four months. (2) It reappeared for a very short time in the depth of the orbita, and, on examination, a foul-smelling and secreting spot was discovered in recess where it was difficult for the juice to penetrate. The application of some lint, soaked in juice and pressed on the spot, took the pain away speedily. So far as I used the juice only on ulcerating surfaces of cancers that were easily accessible, but I think that a local analgesic that restricts the use of morphia or cocaine in such cases is of great value—for instance, in the excruciating pain or ulcerating uterine carcinoma.

As regards its antiseptic properties, I first noticed it in some experiments for the determination of the comparative digestive powers of different solutions. In one test tube a piece of meat in 10 c. c. of water, to which ten drops of the fresh juice of the leaves were added, showed after a week no signs of decomposition. I followed this up, and will report about the result of the experiments on another occasion. The experiments in the test tube were amply confirmed by practical experience. In every case of ulceration that came so far under observation it was possible to clean the surface from the slough within a very short time, mostly within twenty-four

hours. In one case of ulceration of the foot that had been for some time in the hospital, in which the dressings had to be changed five times in twenty-four hours, the secretion diminished at once, and after a day required changing only once in twenty four hours. In this patient the pawpaw leaves themselves were used, after having been bruised in the mortar. This antiseptic action did not fail in any case in which the remedy was used, no matter by what the ulceration had been produced. If we inquire for the reason of the analgesic and antiseptic properties of the pawpaw juice, I believe the following to be the most feasible explanation: I think that the antiseptic action is due to the direct effect of the digestive ferment on the bacteria, keeping up the suppuration by simply digesting them and the slough formed on the suppurating surface, while at the same time the papain may form such a combination with the albumine of the cells as to render the growth of bacteria impossible, in a similar way as pepsin combines with the albumine digested by it. It is further extremely likely that the labile composition of albumoses, as produced by the action of micro-organisms, is transformed in the process of digestion into other non-poisonous products of the nature of peptones.

And here I wish to draw your attention to the very essential difference that exists between the general body of antiseptics and the action of the papain. The antiseptics owe their antiseptic qualities to the fact that they are protoplasmic poisons. They destroy the bacterium because they destroy every living cell. It is, therefore, impossible to use any antiseptic without injuring, more or less, at the same time the tissue on which the bacterium has settled. Papain acts differently. It destroys the bacterium by digesting it, while it can not affect the living tissue in which blood circulates, and can only digest the gangrenous slough formed by pus corpuscles, extravasated blood, horine, etc.

The analgesic action may be traced to the same source. The pains are produced by the ends of the nerves terminating in the ulcerating surface being laid open by the ulceration, and the suppuration attacking the nerve fibre within its neutrolemma by the emigration of pus corpuscles into it. As soon as the ulcerating surface is cleaned from the slough, and the diseased smallest termini of the nerve fibres consumed, the pain will disappear until the fresh terminus has been affected again by the ulceration.

Now a few words as to the mode of applying it. I first used the leaves themselves after being crushed. They make a very good dressing for foul ulcerating sores, but have the disadvantage that it is rather difficult to remove them, especially

from deep recesses. They vary in strength: young leaves are not so effective as old ones. The juice of the leaves pressed out may be objected to for the same reason of varying strength; besides it does not present a very inviting appearance though having a very agreeable smell. It does not help for any length of time, or at least become unreliable. The best form of application is the juice of the unripe apple mixed with equal parts of glycerine. It keeps very well, and after allowing a little time for the sediment to settle it, a perfectly clear yellow liquid may be obtained.—*Prov. Medical Journal*.

## GYNECOLOGY AND OBSTETRICS.

### ON THE COMPLICATION OF PREGNANCY WITH HEART DISEASE.

This very important question is exhaustively treated by Dr. E. Leyden in Nos. 1 and 2, Vol. XXIII of the *Zeitsch fur klin. Med.* It would occupy too much space to detail the 157 cases discussed by the author, but his conclusions may be summed up as follows: Women suffering from heart disease conceive as readily and frequently as those in the best of health, but they miscarry far more frequently. Pregnancy exposes such women to the danger of a more or less intense aggravation of the heart trouble, which may be either temporary or permanent, and causes in the severer cases a considerable danger to life. Death results in nearly 40 per cent of the severer cases, chiefly through œdema of the lungs or collapse of the heart; it seldom occurs during the confinement, but more frequently afterward, most frequently of all either directly or for a short time *post partum*. The vast majority of the vicia cordis in which very severe symptoms or death were produced by pregnancy or puerperium were cases of mitral disease, chiefly stenoses. Even those patients who have apparently successfully got over both pregnancy and lying-in, remain very weak for a long time, and frequently bring away with them a lasting injury to the compensation previously set up.

Dr. Leyden considers that girls and women suffering from heart disease should be advised not to marry, or at least to avoid repeated pregnancy. He also holds that premature labor should be artificially induced directly disturbances in the compensation occur, which either will not submit to treatment or else have reached a threatening degree, and feels sure that by this means better results will be obtained than heretofore if only there be no delay, no waiting till the last moment

Finally, the careful exhibition of chloroform is permissible in the confinement of women suffering from heart disease, provided they are not too weak.—*Provincial Medical Journal*.

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HEADACHE AS A CONSEQUENCE OF MENORRHAGIA AND  
UTERO-OVARIAN IRRITATION—ONE-SIDED HEADACHE—  
VERTICAL HEADACHE—OCCIPITAL HEADACHE—TREAT-  
MENT.

By WILLIAM H. DAY, M. D., M. R. C. P. Lond., Consulting Physician to the Samaritan Hospital.

Headache, from whatever cause it proceeds, is one of the most distressing of disorders which afflict humanity. Whilst it lasts, if at all severe, the patient is a miserable sufferer, equally unfitted for the duties and pleasures of life.

Among women headaches are very common from the susceptibility of their sex and the delicacy of their nervous organization. The female genital tract is a factor in the production of these cerebral troubles, which does not apply to men, and perhaps this circumstance alone is a cause of the greater frequency of headaches in women.

Notwithstanding the occurrence of menorrhagia there are some women who become pale and bloodless, and yet are not liable to headache—the brain does not take offence, though there is marked anæmia and faintness on exertion. Just as some gouty men suffer from gouty headache there are others who experience recurring attacks of gout, who habitually indulge in excess of diet and stimulants, and yet never know the sensation of a headache. Uterine disorders, however, frequently set up the most intractable and violent headaches.

*Menorrhagia* frequently originates from local congestion and hyperæmia, or from excess of periodical losses, constitutional or acquired. The patient has, from one cause or another, too active periods, or she has had children at short intervals, and the catamenia have been in excess afterward. Then follows a relaxed condition of the uterus, a want of tone in its muscular wall, the organ becomes heavy, sometimes displaced from its weight and overloaded vessels. Whilst coagula collect in the uterus and prevent a proper degree of contraction, they may be thrown off at any time, exposing open uterine vessels, and these further pour out clean, bright blood. This is the initiatory stage, but the patient looks upon it as natural, no attention being paid to it until headache, or some other symptom of nerve exhaustion supervenes, and then the real cause is ascertained. Professor Retzius, of Stockholm, has recently dis-



covered that the Graafian follicles in the ovary are surrounded by nerve fibrils which never penetrate the capsule of the follicles but enter freely into the coats of its blood-vessels. Hence vaso-motor influences must be strong within the ovary, and must set up under unfavorable conditions, local changes affecting the catamenia, and general disturbance of the circulation and cerebro-spinal system.

The possibility of other causes of menorrhagia must be borne in mind as in some morbid condition of the blood, as occurs in Bright's disease; an abnormal condition of the mucous membrane in endometritis; active hyperæmia from obstructive disease of the heart, lungs or liver; or the pressure of a pelvic tumor. I have lately seen a very inveterate case of menorrhagia where the patient, a single woman, had chronic metritis, and the catamenia were suspended for four months. When the periods returned they were in excess, and the anæmia was universal, the skin and mucous membranes being very pallid. The muscular power of the heart in consequence of the drain became weakened and incapable of driving the necessary blood to the brain unless the patient was kept in a prone position.

Siredey in the *Dictionnaire de Médecine*, 1876 (article "Métrorrhagie"), dwells on the menorrhagia of the menopause, where, however, the hæmorrhage relieves the head. Retzius' discoveries already noted, may throw light on this subject. On the other hand, although he finds that menorrhagia takes long to produce bad results in healthy young women, it is very serious in subjects already weakened by other diseases; grave symptoms of anæmia then appear, as hysterical seizures, loss of appetite, vomiting, emaciation and syncope.

It has been observed by Piorry that cervico-occipito neuralgic headache is chiefly associated with menstruation, but this hardly accords with my experience. Martineau speaks of the headache produced by cerebral anæmia in bleeding piles in his paragraph on the cephalalgia of menorrhagia.

It is well to look a little further into this question of menorrhagia. Whatever produces hyperæmia, or excess of blood, locally or generally, has a tendency to invite hæmorrhage, and if this goes on a full-blooded person is soon reduced to an anæmic state. Dr. Barnes relates the case of a woman who had suffered much from metrorrhagia whose blood contained only two parts in 1000 of globules, 1.8 of fibrin, 61 of solid materials of serum, and 915 of water.

When hæmorrhage is irregular in quantity, or in duration, it is certain to affect the health sooner or later, and so tell upon the system. Hence it is that menorrhagia, or a profuse leu-

corrhœal discharge degrades the quality of the blood, and so interferes with the normal functions of the body, and the organs concerned in digestion and assimilation. This being so, headache and neuralgia of distant parts, as of the breast, arm, or leg, are not uncommon. When the uterus is the seat of pain, or of hæmorrhage, the nervous centres become exceedingly sensitive and susceptible. It is not to be forgotten that the menorrhagia has rendered the brain unstable, and that it is easily disturbed by any emotional influence, as worry of mind, shock or grief.

We must not overlook the fact that there is a local and a general anæmia; in other words, a typical cerebral anæmia, and anæmia affecting the entire organism. As there is a general congestion of the whole systemic venous circulation, there is a partial congestion of the brain, limited areas being particularly affected, as we observe in some cases of deep-seated occipital headache. But it is with the universal or general anæmia that we have to deal, and this may be induced by metrorrhagia. Above all, nutrition is profoundly affected by anæmia; not only do the tissues suffer from insufficient blood supply, but the blood itself becomes altered in composition, and does not discharge effete products easily eliminated in health. In fact, though not septic, the blood is rendered to a certain extent poisonous.

Let me briefly refer to some well-known types of headache. One-sided headache (*hemicrania* or *migraine*) is a terribly painful affection, and its worst form has been observed in women who have suffered from menorrhagia. Among the causes that lower the nervous system, menorrhagia is common. Like severe leucorrhœa, or oversuckling, it is a cause of nerve-starvation. Sometimes the pain begins in one temporal fossa. As to the side affected there is no rule, it may be the right or it may be the left, but with some patients the pain invariably fixes on one side and remains there throughout the attack. It may be superficial and soon yield to remedies, or it may extend into the brain and prove severe and difficult to subdue. I have met with many instances in which patients never experienced this form of headache until they have suffered from menorrhagia. Some patients have for years been thus liable to periodical attacks of nervous headache, chiefly frontal, and not until the catamenia has been too frequent or excessive has the headache become vertical or one-sided. This I have known to happen among young subjects, but more frequently in those who are older; in whom the pain is sometimes so boring and acute that it pierces through the eye and settles in the occiput. I have heard the

sensation compared to the thrust of a knife pushed in at the orbit through the half of the brain to the back of the head.

In the case of a lady which I have elsewhere described, sent to me by Dr. Smut of Caledon, Cape of Good Hope, the headache set in after the birth of a child six and a half years previously. The pain invariably commenced in the left temporal fossa, and the feeling was as though the eyes were being dragged out of the head, and it was occasionally followed by exhaustion and delirium. The pain was sometimes so acute that the hypodermic injection of morphine was resorted to, but this, however, always caused such emesis and alarming symptoms that it had to be abandoned. The great peculiarity of the case was that as soon as lachrymation had commenced in the left eye the pain was relieved. Sometimes the lachrymation was profuse. Iron and arsenic, by improving the general health, lessened the frequency of the attacks. Porter or port wine occasionally gave relief.

*Vertical headache* may be often noticed among women who have suffered from menorrhagia, and whose health is reduced in consequence. The pain is situated over the lambdoid and posterior half of the sagittal sutures. It is like a heavy weight, and the part is hot and burning to the hand. In other cases it is described as of a gnawing, scraping feeling, or as though something was scratching the upper surface of the brain. The pain probably arises from meningeal irritation, as is often observed in cases of cerebral anæmia. The preliminary symptoms are irritability, groundless fears, apprehensions and restlessness. Nothing goes right till the pain overpowers the patient, and then she is tractable and completely prostrate. In one case observed by me, a married lady became so excitable during a seizure that her friends were afraid lest she should become insane.

As the headache extends to the forehead, or to the occiput, the attack assumes the ordinary character of a nervous headache; there may be vomiting, flushing of the face, anorexia, dizziness of sight, coldness of surface, and other miseries. The onset of an acute vertical headache is frequently accompanied by a fidgety, restless state which passes off when the headache becomes general.

The more vigorous in mind and body may escape this tendency to these two forms of headache, as they may escape the tendency to any form of neuralgia, but those who are constitutionally weak and neurotic, or who have been reduced by anxiety or illness, are very susceptible. At the middle period of life there are many causes in operation to produce headache, as child-bearing, excessive menstruation and the

struggle for existence are common enough, whilst with others idleness, vice and dissipation are equally common causes.

*Occipital headache* may arise from the extension of pain from one or other temple, or it may begin in the occiput when the patient is already reduced in general health by menorrhagia or other causes of debility. A patient may have had one-sided headache at varying periods for years, and then, without apparent cause, the pain settles in the occiput. The pain follows the course of the occipital nerves over the back of the head, and the neck is almost invariably tender and stiff. The pain is purely nervous or neuralgic, and this is proved by the way in which it travels to the front of the head and temple in consequence of the free anastomoses between the occipital nerves and the branches of the fifth nerve. It is unnecessary to enter into all the causes of occipital headache, but I may incidentally observe that there is a form of acute congestion of the occipital lobes which is occasionally met with, and is accompanied with acute suffering upon any attempt to move the head. A gentleman, 28 years of age, came under my care in December, 1876. He described the pain as deep-seated, like the beating of a hammer, over the occiput. The pulse was hard, slow and laboring. Free purging with calomel and salines, low diet, and counter-irritation, at the back of the neck, brought relief in this case. It is very important not to mistake this form of headache with that I am describing.

When the superficial nerves at the back of the head remain for a protracted period the seat of severe pain, the patient becomes worn out from suffering and sleeplessness. In a case of occipital headache in a lady sixty-two years of age, the symptoms were alarming. I have recorded this case, which was unusually severe.\* For twenty-five years the patient had suffered from nervous headache, owing to family predisposition and excess of the anæmia, but this was the first occipital seizure. The usual attacks began on the vertex, or forehead, sometimes in one temple or supra-orbital ridge. Sometimes the lachrymal, nasal or ophthalmic nerves were in turn involved, and tears ran down the cheek; there was pain along one side of the nose, and the conjunctiva became injected. Sometimes the gustatory nerve would be affected, and the patient knew that headache was threatening from a copious flow of saliva. In this very severe occipital seizure the pain commenced where the great occipital nerve pierces the trapezius and spreads over its cranial distribution. The violence of the vomiting, the sleeplessness, the pain, the feeble pulse, the coldness of surface and the death-like aspect were very alarming. Nothing af-

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\* *The Lancet*, January 14, 1893, p. 81.



forded any relief till the hypodermic injection of morphine was resorted to, and from that time, although the convalescence was protracted, the patient made a good recovery, and has had no seizure since.

When the catamenia are excessive, and the patient is overworked or holds a responsible position, occipital headache in a milder form is sometimes observed. Such a case, in the person of a lady, thirty-five years of age, came before me in 1885. She complained of a fixed pain over the occipital protuberance, where she also felt a heavy pulsation. The muscles at the back of the neck were very stiff. The pain was worse during the catamenial flow. Bromo-cafeine always afforded relief. At the end of a year she was nearly cured, which she attributed in a great measure to mental rest.

In the case of a lady 36 years of age, whom I saw in 1886, the pain was seated over the occiput; the posterior cervical muscles were stiff and the feeling was like the hair being dragged out at the back of the head, or "done up tightly with pins." The cause was attributed to great sorrow at the loss of her only child. The catamenia had been in excess for many years. Any fatigue aggravated the headache, and after walking a short distance she had a feeling of general numbness, and that she must fall down. Another patient described the pain as beginning like a "crick in the neck." Occipital headache is sometimes witnessed in neurotic women about the climacteric period of life, especially if they have ever had chronic rheumatism, sciatica, or other nerve ailments. I was once consulted by a patient who suffered from this kind of headache after reading a sensational story, or even after mere thinking. Any pleasurable excitement would take it away. Whatever such patients may say, the suffering is never very acute if the pain comes and goes on such a slight provocation. In nervous affections the patient is prone to complain of "awful" and "unbearable" suffering, though we know that she would bear far better pains twenty times as severe, caused by grave or even fatal diseases. The pain of headache may be seated in different structures of the brain. Possibly the brain substance itself is the seat of pain in cases of headache due to cerebral softening of advanced life, for why should not a starved or exhausted brain ache? Why is it necessary to exclude the cerebral suffering and localize pain in the membranes, arteries, veins, and nerves in all cases, including the tentorium, the falx, and the parts covering the brain? Galen entertained the opinion that the brain substance might be the seat of pain, and he has had many supporters down to the present time. The patient's own description of headache is often an accurate guide to the

situation of the pain—that is, whether external or internal, though it is an unquestionable fact that the one may extend to the other. Pain in one temple may run along the pericranium into the orbit and so to the brain. The patient will tell you that when superficial it is felt over the scalp or immediately beneath it, or in one or other temple, leaving the brain free; but when it penetrates the skull the pain is described as deep-seated, and the whole manner of the patient is changed. I may, in passing, just observe that we can scarcely mistake the dull, heavy, unceasing headache of organic disease for any functional form, however acute and severe.

*Treatment.*—In the treatment of any disease it is essential to ascertain, as far as we can, its true nature and the causes in operation before we attempt to deal with it. At the same time we must not overlook urgent symptoms foreign to the ailment, so to speak, which may demand immediate attention. Menorrhagia, for instance, may produce such intense headache that until we can arrest it and put the uterus in a healthy state, the suffering will continue. There are two separate conditions going on at the same time, holding a close relationship as regards cause and effect. Treatment should be constitutional, so as to relieve pain and improve the quality of the blood and nervous system; local, that some of the remedies employed may exert an influence on the affected nerves, as in one-sided headache or in some cases of occipital headache.

Two points are to be kept especially in mind: (1) the age of the patient; (2) the situation and course of the pain.

If the headache occurs in consequence of the catamenia being too frequent this must receive prompt attention, and careful measures be adopted in the intervals of the pain and headache. When this is observed we may often succeed in controlling the headache, but it sometimes happens that no headache is complained of till the patient has ceased to menstruate, and then, in consequence of having been drained during earlier years, or having had many children, the attacks become frequent and severe and the patient is an invalid. Should the seizures happen after the middle period of life, when the bodily powers are declining, they will prove all the more intractable.

(2) *Course and Situation of the Pain*—One-sided headache is more amenable to remedies than frontal headache. When it selects one temple it will frequently yield to treatment after a time. At the commencement of the pain a severe paroxysm may sometimes be prevented by taking a pill of croton-chloral and gelsemia every hour until six are taken, should no relief follow before. Each pill consists of three

grains of hydrate of butyl-chloral, and the  $\frac{1}{200}$ th of a grain of hydrochlorate of gelsemia. In some persons this remedy acts like a charm in relieving paroxysmal neuralgic headache and in other cases it signally fails, whilst five-grain doses of quinine given every two or three hours, and one or two table-spoonfuls of brandy, will bring effectual relief in a short time. I have sometimes given successful croton-chloral in ten-grain doses with a little glycerine and cinnamon water.

The pain of frontal headache just over the eyebrows is sometimes relieved by nitro-hydrochloric acid with tincture of orange or calumba, to which may be added three minims of the liquor strychniæ. Where digestion is weak and the tongue clean, this is a valuable combination.

Chloride of ammonium, in doses of fifteen to twenty grains, given every four hours, will sometimes relieve this form of headache. It may be combined with a few drops of spirit of chloroform, and in some cases where the circulation is good I have known marked advantage follow when given with hydrate of chloral, sleep being invited as the suffering diminishes.

Indian hemp, in quarter to half grain doses, sometimes proves very effectual. I know a patient who is subject to migraine, and this is the only remedy that affords relief. At the same time it requires great care in its exhibition, as giddiness, faintness and partial anæsthesia have followed its use in large doses. In two cases that came under my notice it produced a peculiar effect upon the heart, great alarm and a feeling of approaching death, arising no doubt from too large a dose. The tincture contains one grain in twenty minims, and this is the best form for administration. For an adult we ought not to begin with more than five minims, and increase the dose very gradually, if it be necessary. It is sometimes very useful in headache of uterine and ovarian irritation if taken at the onset of the pain and continued for some time. At first it should be given only at night, and then if the symptoms do not yield, in the morning also. If the bowels are sluggish it may be combined with a small dose of aloes or compound rhubarb pill.

I will not go through all the list of remedies which will suggest themselves to the practitioner according to the state and the severity of the symptoms. Guarana may answer in one case and caffeine in another; antipyrin and phenacetin may bring relief to some, and utterly fail to subdue the headache in others, though the symptoms may be exactly alike.

*Vertical headache*, having its origin in exhaustion and anæmia, will be much relieved by small doses of iron and arsenic when the catamenial period has passed by and the

patient is no longer disturbed by flushing of the face, nervous alarm and other symptoms due to uterine and ovarian excitement. The ammonio-citrate of iron with arseniate of sodium, bromide of ammonium and sal volatile will often bring relief when continued in the intervals of the headache and the general health is stronger. Levico-water (mild) is another excellent remedy in these cases, and I often meet with patients who can tolerate it when other forms of iron are resisted. Unless the catamenia have ceased, or if the patient is liable to excess of loss at irregular intervals, iron is not a remedy that should be prescribed, as it will increase the headache and also the flushing and irritability so frequently met with at that period of life. Next, pure air and such remedies as calm the nervous system must be selected in preference.

*Occipital headache*, if affecting the superficial nerves, will sometimes yield to hot applications over the part affected or to a liniment of aconite. In one patient, hot salt applied in a bag over the painful part invariably gave relief after other remedies had failed. If digestion be weak nitro-hydrochloric acid is useful, and above all rest of mind and a complete change of air and scene. A stimulating liniment of acetic acid or of turpentine well applied to the nape of the neck will often ease the patient.

I now come to speak of the hypodermic injection of morphine, because it is to be understood that I am more particularly referring to very severe cases that have resisted the ordinary methods of treatment. When the patient is exhausted from the want of sleep, and the suffering is so intense that power and strength are failing, there is, in my experience, but one remedy left, and that is the subcutaneous injection of morphine. Something must be done that will lull the patient into quietude when the agony is great and continuous. Morphine, when carefully injected into the tissues, passes into the blood and so acts upon the nervous system. An exceptional case of great vomiting and prostration may occur, but I have never met with such an instance, and I think it will be rarely witnessed if the dose, to begin with, does not exceed one-sixth of a grain. There is more toleration of the drug in some sufferers than others, and occasionally, in frequently occurring seizures, I have been obliged to gradually increase the dose to half a grain, and this has succeeded when the smaller dose has failed. I have found, too, that while the one-sixth of a grain will in most cases give partial and temporary relief, say for a few hours, and then the suffering returns as bad as ever, the largest dose will keep the patient quiet and ensure tranquil sleep for twelve or sixteen hours, that when she awakes the



pain has completely left her, and there may be no return of suffering for weeks or even months. However, to guard against the possibility of danger, the practitioner should not begin with more than the one-sixth of a grain. It will be understood that be the quantity large or small it is not without risk to those who are of intemperate habits, or the subjects of any organic disease of the kidneys, heart, or lungs. The following is an excellent formula :

℞ Morp. acet.....	gr. xx
Atropinæ sulph.....	gr. $\frac{1}{3}$
Acid carbolic.....	gr. iss
Glycerini.....	3ss
Aquæ.....	ad 3ss

Six minims contain half a grain of morphine, and one hundred and twentieth of a grain of atropine.

—*Provincial Medical Journal.*

## Medical Items.

### THE PROHIBITION ON CHEMICAL INDUSTRY IN AMERICA.

Over a quarter of a century has rolled by since the smoke of battle cleared away and the din of arms ceased to resound throughout America. The arts of peace have been cultivated for a generation, and one by one the oppressive measures, made necessary by a state of war, have been repealed or have lapsed by limitation. Only recently the press heralded the repeal of the Federal election laws as "the wiping out from our statute books of the last of the war measures," and all true Americans, victors and vanquished, Republicans and Democrats, all—save a few blood-thirsty non-combatants—rejoiced together over the fact.

But is it a fact? Every pharmacist in the land, from the great manufacturer down to the modest country apothecary, who makes a few tinctures and fluid extracts, knows that it is not. He knows that the art and science of pharmacy, the art and science of medicine, and their clients, the sick and suffering of the country, still groan and labor under a war measure which, however necessary it may once have been in its exception, has for years past been more onerous, unjust and shameful than any for whose repeal at least one great party has been clamoring—the tax on alcohol for manufacturing and medicinal purposes. It still stands on the statute books, a war-burthen, after thirty years of peace; a tax on the sick and

suffering, a paralyzer of industries, as foolish and short-sighted as it is unjust and iniquitous.

And now, when the proposed revision of the tariff had given the pharmaceutical profession reason to hope for its repeal, or at least mitigation, comes the notice that it is proposed to increase the tax and duties on alcohol.

This is a blunder—a worse than blunder. It is an outrage on a long suffering class, as well as a blunder from an economical point of view, and one so plain that it would seem that any person of common sense would see its folly. Let Legislatures and Congress put all the tax they please upon liquor intended to be used as a beverage; let them throw all the difficulties they please around the distillation of and trade in it, and few decent men would care to raise their voices in protest; but when it becomes a question of maintaining prohibitory tariffs or taxes on alcohol for use in medicine and in the arts and industries, every sane individual should unite in protest.

The tax on alcohol for these purposes, and the inanities of our laws regulating the registration of trade marks, by which foreign patentees have every advantage over Americans, have paralyzed chemistry and chemical industries in this country, and have forced us to import from Germany and France millions, yes, hundreds of millions, of dollars worth of chemicals, drugs and medicines that would otherwise have been manufactured in the United States; they have carried hundreds, possibly thousands, of millions of dollars abroad during the past thirty years that should have stayed in this country, but for these fool statutes. Further than this, with our vast surplus of cereals, enabling us, were it not for the tariff and taxes, to produce alcohol cheaper than any other country on earth, the United States might have been the exporter of untold millions in chemicals to the balance of the world.

Just as long as we allow Schering and Merck, and the host of other *Chemische-fabriken auf Actien, Farbenwerke*, etc., to patent their goods and register their trade names in this country, without reciprocity, and to appoint their “sole agents” and representatives in this country, through whom all orders for goods must pass (thus creating a monopoly on a monopoly); just as long as we do this, and forbid Americans to manufacture chemicals, by placing the most important article in their manufacture at so enormous a price that its use and employment is ruinous—just so long will we be importers, instead of manufacturers and exporters, to the extent of hundreds and thousands of millions of dollars.—*National Druggist, March, 1894.*

A BILL TO REMOVE CERTAIN DISABILITIES OF THE LATE  
ACTING ASSISTANT SURGEONS.

Mr. Richards introduced the following bill:

WHEREAS, before, during and since the war of eighteen hundred and sixty-one to eighteen hundred and sixty-five, but chiefly during the war, private physicians were employed as medical officers, serving under the orders of their superior officers as such, agreeably to army regulations, in the armies of the United States, in addition to the commissioned medical staff, because the number of the latter was not sufficient for the necessities of the service. This class of officers was known officially as acting assistant surgeons, because they performed exactly the same duties, and were subject to the same control as commissioned medical officers. These acting assistant surgeons were employed under contract made in accordance with paragraph twelve hundred and sixty-eight, Revised Regulations of the United States Army, eighteen hundred and sixty-one, and paragraphs thirteen hundred and four and seventy-one, Appendix B, Revised Regulations, eighteen hundred and sixty-three, and were obliged to remain in the service of the United States for a stated time. Among these officers were many of the eminent physicians and surgeons of the United States. Some of the duties performed by acting assistant surgeons were as follows: They were in charge and command of United States military hospitals, known as general, division, field and post hospitals; they had charge and command of United States military hospitals for the care of contagious diseases; they were in command or in charge of hospital trains, hospital boats and ambulance trains, and were executive officers of United States general hospitals; they acted as brigade and regimental surgeons, and at least one acting assistant surgeon acted as medical director of a department for nearly a year; they were responsible for hospital funds and property, and also post funds; they served on courts-martial, which the Articles of War require shall be composed of officers, and also on boards of survey, in camp, field and garrison, on overland expeditions, and in Indian wars; they faced death and endured hardships like commissioned officers, and it is known that nearly one hundred and fifty died in the military service of the United States; and

WHEREAS, these acting assistant surgeons were allowed fuel, rations, quarters, and transportation in kind, and to purchase rations from the commissary, and traveling expenses the same as commissioned medical officers with rank of first lieutenant, and were accorded, by order of the War Department, the same protection in their position, the same respectful sub-

ordinate conduct, and the same military courtesy from enlisted men as if they were commissioned officers, because they were placed in the position of commissioned officers so far as related to their duties. Many of them were also required to wear the uniform of an assistant surgeon. Acting assistant surgeons who were disabled by reason of disease contracted or injury received in the military service have been granted pensions under a law which assimilates them to the rank of first lieutenants of the Military or Marine Corps; and

WHEREAS, because they were not commissioned as officers, but were employed by contract as such, they are denied admission to military organizations like the Loyal Legion and the Grand Army of the Republic; and to relieve this unjust discrimination, and to give a proper recognition to their patriotism, duties, responsibilities, services, hardships, and exposures, they ought to be entitled to receive the rank for which they are allowed pension and which will relieve them from these disadvantages. The appended bill is offered for this purpose. It involves no expense to the United States Government and no change in the relative rank of officers of the medical corps of the United States Army who have been or are now in the service of the United States; therefore,

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That private physicians who were employed as medical officers in the armies of the United States for a period of not less than three months, in accordance with paragraph twelve hundred and sixty-eight of the Revised Regulations, United States Army, eighteen hundred and sixty-one, and paragraphs thirteen hundred and four and seventy-one, Appendix B, Revised Regulations, eighteen hundred and sixty-three, and who were known officially as acting assistant surgeons of the United States Army, and whose services were honorably terminated, shall be commissioned by the President of the United States as acting assistant surgeons of the United States Army, and the date of employment as acting assistant surgeons to be the date of commission and muster into service, and the date of the honorable termination of service as acting assistant surgeon to be the date of discharge or muster out of service: *Provided*, That no pay or allowance shall be made to any such acting assistant surgeon by virtue of this act; and this act shall not affect the rank, pay, or emoluments of commissioned medical officers of the United States Army.

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DR. JACOBI CALLED TO A PROFESSORSHIP IN BERLIN.

It has been often predicted that medical students from Europe would some day cross the water for instruction here.



That day has not yet come, but they are sending over here for professors from this side. Dr. Abraham Jacobi, of New York, was offered a professorship in diseases of children in the University of Berlin, but, like a true American, he declined. Without any positive knowledge of the matter, we suspect that were Germany a republic Dr. Jacobi might have considered the offer; but a man who spent a few months in a German or Austrian prison in 1848 is not very apt to go back in 1893, under the same form of government, even as a professor.

This is, undoubtedly, a great compliment to Dr. Jacobi, but it must be remembered that he received his medical degree in Germany, and although some of our books have been translated into their language, the Germans would hardly yet call a professor from those who were graduated on this side, although it might be to their advantage if they occasionally did so. The type of education in the United States, if thorough, as it may be, is better than in Germany. That is to say, it is more practical, and for the benefit of the patient. But all this involves fine distinctions. Fearing the *Post Graduate* may stir up smouldering Teutonic fires, no more will be said on the subject.—*Post Graduate*.

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#### PILGRIMAGE OF MUSSELMEN TO MECCA.

The number of Mohammedans who made the annual pilgrimage to Mecca during 1893 has been unprecedented, according to the official figures.

There passed through the port of Djeddah alone 95,625 of all nationalities.

The highest number ever passing through here before was in 1880, 59,659; and the smallest in 1868, 23,325.

In nationalities they were from India, Egypt, Algiers, Java, Turkey, Arabia and Persia.—*Medico-Chirurgicale, Nov.*, '93.

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#### THE REWARD OF WICKEDNESS.

"I never robbed a man but once," said the honest tramp, "and then I was starving. He would not give me a penny, and I could not stand the gnawings in my stomach any longer. So I knocked him down and went through his pockets. What kind of a haul did I make? Just one little bottle that read on the label: 'Pepsin; for the full feeling after eating.'"—*Judge*.—*Charlotte Medical Journal*.

## MORTUARY REPORT OF NEW ORLEANS.

FOR MARCH, 1894.

CAUSE.	White .....	Colored...	Male.....	Female....	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	6	5	8	3	7	4	11
“ Intermittent .....	1		1			1	1
“ Remittent .....	4	3	2	5	4	3	7
“ Congestive.....							
“ Typho .....	4	1	1	4	1	4	5
“ Typhoid or Enteric.....	9	2	7	4	11		11
“ Puerperal .....							
Influenza.....	5		1	4	4	1	5
Scarlatina .....							
Small Pox.....	1		1		1		1
Diphtheria .....	6	1	3	4		7	7
Whooping Cough .....		1	1			1	1
Meningitis .....	5	6	5	6	3	8	11
Pneumonia.....	21	13	22	12	23	11	34
Bronchitis .....	14	6	12	8	10	10	20
Consumption .....	34	33	31	36	67		67
Cancer .....	12	3	8	7	15		15
Congestion of Brain.....	2	2	3	1	3	1	4
Bright's Disease (Nephritis) ...	19	11	18	12	30		30
Diarrhœa (Enteritis) .....	14	6	14	6	9	11	20
Cholera Infantum .....	3	1	3	1		4	4
Dysentery.....		4	4		4		4
Debility, General .....	3	1	2	2	4		4
“ Senile .....	8	7	6	9	15		15
“ Infantile.....	3	1	4			4	4
All other causes .....	118	77	95	100	125	70	195
TOTAL .....	292	184	252	224	336	140	476

Still-born Children—White, 26; colored, 20; total, 46.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 18.99; colored, 31.76; total, 22.48.

F. W. PARHAM, M. D.,  
Chief Sanitary Inspector.

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

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### THE PREVALENCE AND SPREAD OF TUBERCULOSIS IN THE LOWER SPECIES, AND ITS RELATION TO HUMAN TUBERCULOSIS.\*

By A. S. WHEELER, D. V. S., NEW ORLEANS.

GENTLEMEN—I am only too happy to respond to the invitation of this society in representing the attitude of the veterinarian toward the spread of tuberculosis through the lower animals

I beg your indulgence, however, in so far as this paper lays no claims to originality, but simply embodies the present status of the work, so far done, in this important field. It will be a résumé of the investigations of those who are better equipped, and who have had better opportunities for research, than your humble servant.

As you are aware the two principal channels through which tuberculosis may be communicated to man, from the lower animals, are the meat and milk supplies, and especially the latter, owing to the fact that it is generally ingested in a raw state. The whole medical and veterinary world is devoting itself to discovering the best methods for limiting the spread of tuberculosis.

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\*Read before Orleans Parish Medical Society, April 14, 1894.

In London, Berlin and other cities of Europe, special tuberculosis congresses and meetings are being held, and I take it that such is the purpose of this meeting to-night.

The first question to be asked is, in what animals, outside man, does tuberculosis find a fertile soil to vegetate. The answer is: legions. In fact, we do not know of any creature inhabiting earth, air or water, that may not be its host. It is present in man, the ox, the hog and the sheep only too often. It occurs in the dog, cat, tiger (example, tigress Cleopatra, New York). J. C. Meyers found it in the giraffe, guinea pig, rabbit and horse. Walter K. Sibley has seen it in canaries, doves, finches, fowls, geese, owls, pea fowls, pheasants, pigeons, swans and vultures, and so on indefinitely. If I am not mistaken, no living creature is immune against it. Lintet and Despeignes have proved that lumbricoids (sand worms) may carry to the surface of the ground, with the products of their digestion, tubercle bacilli, with all their virulent properties. Pasteur likewise has demonstrated the part the earth worm plays in perpetuating charbon on pastures once infected. In short the lumbricoids may at least participate in the life history of the lower organisms, and serve as the vehicles for their spread.

Only last Thursday, on opening a horse that died of charbon, I found innumerable specimens of the *strongylus armatus* (the embryo of which so commonly produces parasitic aneurisms in the mesenteric arteries), and also the *sclerostoma tebracanthem* and the *gasterophilus* were present in considerable numbers.

No one will question the carrying power of the fly in spreading the venom of anthrax. Any one who is familiar with the *hypoderma bovis* or common grub must appreciate the strong probability of its disseminating the spores of contagion in a herd of cattle.

Dr. Salmon, in his study of the Southern cattle plague, has at last decided to saddle almost the entire blame for the spread of this disease on the cattle tick.

As to the relation of entozoa to contagious diseases, it may not be irrelevant for me to cite here the coexistence of the *filaria papillosa* and anthrax in mules during the past summer.



I must admit, however, that I am somewhat dubious about the above disease being anthrax, although the bacilli were found in the splenic pulp. From time immemorial, however, the disease presenting the symptoms and lesions of these mules has been designated charbon by our planters. However, if this be charbon, as I hope to determine before long, the invariable presence of these filariæ, in seven cases that died, to the number of twenty-five to fifty in the abdominal cavity of each mule, is significant, and means more than a mere coincidence, especially as the lesions were principally in the intestinal tract.

Of course, these are matters of speculation to a great extent. But when we deal with the infection of tuberculosis through the meat and milk supplies we confront something more tangible.

We shall speak hereafter more especially of the bovine species.

The extent to which tuberculosis occurs in the bovine species is given in the following table from Dr. Wm. O. Shakspeare:

Below one year.....	0.02 per cent.
Between 1 and 3 years .....	0.70 per cent.
Between 3 and 6 years.....	3.55 per cent.
Above 7 years.....	5 per cent.
Oxen and bulls.....	1.13 per cent.
Cows .....	5.03 per cent.

The following is a table taken from an article by Daniel Lee, M. D. V., in a report to the Boston Board of Health in 1890, showing the percentage of tuberculosis at Brighton abattoir:

Class of Animal.	Number.	Tuberculous.	Per cent. Tuberculous.
Number of all kinds of animals.....	28,296	54	0.19 per cent.
Cows from Eastern States.....	1,153	52	4.5 per cent.
Oxen .....		1	
Western.....		1	
Old cows sent to dead house.....	116	12	10.3 per cent.

The frequency of tuberculosis in the lower animals ranges in the following order: Cows, hogs, fowl, horse, goat, then the ass.

Eber made autopsies on 400 dogs and 100 cats. He found 11 dogs tuberculous or 2.75 per cent., the lungs being the commonest seat of the disease. Only 1 feline was tuberculous.

Shakspeare estimates there are about 16,000,000 milch cows

at present in the United States, 5 per cent. of these being tuberculous, or 800,000. He calculates, at \$40 a head, an annual loss of \$32,000,000 to the American farmer from this disease.

Is there a man here to-night who has any doubt in his mind as to the real dangers of eating the meat and drinking the milk of these cows? I shall furnish you later with statistics that will make the most skeptic tremble.

In this city, for instance, there are 7000 cows in round numbers, and at the lowest calculation 350 of these are poisoning our milk supply, and but for our meat inspection, which after all is but a meagre affair, would be menacing the public health through that channel.

As to the manner of the spread of tuberculosis among the dairy cattle, the chief danger, of course, as in man, is through respiratory organs, particularly in localities where the cows are confined the greater portion of the year in badly ventilated and filthy barns, where the manure is left on the floors for its heating properties, and where the drinking water is but the seepage from these barns, as is the case in our miserable dairy system.

Dr. John M. Parker, of Massachusetts, has recently called attention to this factor in the problem, namely: that to isolate and destroy infected cattle does not strike at the root of the matter. He urges the necessity of correcting the influence exerted by the conditions and surroundings under which the animals are kept.

It was a cow, so tradition says, that kicked over the lantern that started the great Chicago conflagration. Would to God that there were a few recalcitrant cows in our community to make a funeral pyre of some of our swamp dairies. The purifying influence of the flame could alone destroy the accumulation of filth and disease with which they are teeming.

Dr. Parker goes on to say that the farmers consider excessive milking qualities the sole aim of breeding. Instead of selecting the healthiest heifers, they regard only the narrow pigeon chest and the wide pelvis. They breed heifers too young, and cultivate the milking qualities at the expense of all else. They are milked almost up to the calving time, and, in short, there is every violation of nature's laws to subserve the

purposes of functional gymnastics in their endeavor to create a milking machine.

That tuberculosis may be caused by feeding has been proved over and over again by direct experiment.

Klebs was the first (1868) to make successful feeding experiments.

Chauveau met with equally good results in the same year.

It has been claimed that milk is not dangerous unless the udder contains tubercles, but the researches of Bang, Zschokke, Bollinger, Ernst, Peters, and others, have shown that tubercle bacilli may be present in the milk when there are no traces of the disease in situ, but when the tubercles are situated in remote parts of the body.

Herschberger's experiments showed the milk of tuberculous cows dangerous in 55 per cent. of the cows affected with the disease.

Up to the present time there have been demonstrated but six cases of indubitable congenital tuberculosis in the calf. Out of 1,000,000 calves killed in Munich, from 1878 to 1882, there were but five cases of congenital tuberculosis.

In calves the intestinal form is most common.

In my experience the liver is the principal seat of the disease.

The cause of tuberculosis in the bovine species, as in man, is the tubercle bacillus.

"The bacilli often present different appearances. Certain 'morphological' differences are found, and under different circumstances and within limits, the morphology of the tubercle bacilli from the nodulus of Pearly Disease are generally shorter and thicker than those from man.

"Those from cow's milk approach more nearly those from human sputa."

"The characteristics of staining and culture, however, are the same."

In the large ruminants there are two varieties:

a. This form affects particularly the serous membranes, constituting a peculiar manifestation—the so-called "Pearl Disease," or "Pomme de Terre." The miliary tubercles here have a tendency to run together into large masses, having

a yellowish gray, yellow or white color." I have seen them agglomerated into buttons the size of a silver dollar. "These masses, as a rule, do not appear to be in the serous membrane itself, but seem to form in a fine fibrous tissue that is formed on the serous surfaces."

"*b.* The other manifestations are in the lungs and lymph glands; in the lungs they appear the same as in man, with a marked tendency in these animals to undergo calcification."

In the horse, tuberculosis is especially characterized by involvement of the mesenteric and retro-peritoneal glands. The tubercular foci, however, contain more fibrous tissue than in man.

*Laws Prohibiting the Use of Tuberculous Animals*—The Talmud gives a whole volume of the requirements and regulations governing the foods. Being pressed for time, I was unable to work up this important and interesting topic to present to you this evening.

Of course many of the Jewish precepts were based on tradition and would not stand a scientific criticism. For instance, the orthodox Jew will not eat the hind quarters for the following reason: Genesis, 32, 24: "Jacob was left alone; and there wrestled a man with him, until the breaking of the day. And when he saw that he prevailed not against him, he touched the hollow of his thigh; and the hollow of Jacob's thigh was out of joint, as he wrestled with him." Gen. 31, 32: "And as he passed over Penuel, the sun rose over him, and he halted upon his thigh.

"Therefore the children of Israel eat not of the sinew which shrank, which is upon the hollow of the thigh, unto this this day; because he touched the hollow of Jacob's thigh in the sinew that shrank."

If this sinew be excised, the meat is considered wholesome. But this being a difficult operation few attempt it. I have never seen it done. The Hebrew for this sinew is geedhanoshe—just what this means I am in doubt.

But as to their careful examination of the lights or lungs, the Jews were certainly on the right track; their butchers will often spend a half hour inspecting this organ, and if there is the slightest irregularity of its tissues, the entire animal is rejected, and his less scrupulous Christian brother offers the meat for sale.



There were church laws in the ninth century which forbade the use of tuberculous meat.

At the present time the various States have passed and are endeavoring to formulate laws, not so much for prohibiting the use of tuberculous meat and milk, as for eradicating this disease from the dairy herds.

Bollanger and Nocard claim that the flesh of the tuberculous animals is dangerous.

The congress for the study of tuberculosis in France in 1889 and the congress of hygiene held in London in 1890 passed resolutions recommending absolute seizure of meat whenever there was the slightest trace of tuberculosis in the carcass.

On April 4, 1894, I found a tuberculous liver from a dairy cow in the Crescent City Slaughterhouse weighing 51 pounds, or about six times the normal weight. This organ could hardly be styled a liver, it was such a monstrosity, a solid mass of pus. Strange to say the carcass did not reveal enough lesions to excite the slightest suspicion until it was critically examined, when only one small button was found on the diaphragm, and a small cheesy lymphatic on the pleura; the mediastinal glands were slightly enlarged and cheesy likewise, and there was some cachexia. It is a mystery how the disease could have been so intense in one organ without becoming general.

Although this might be classified as a case of local tuberculosis, yet no sane person would run the risk of drinking the milk from this cow, knowing the condition of the cow's liver.

Prof. Law, of Cornell, has recently published an article in several of the veterinary magazines, and probably it has by this time found its way into the medical journals. At all events I consider his views on tuberculosis of too great a value to pass them over, even if some of you should have chanced to have read them.

He presents the subject of the inoculation of tuberculosis from animals to man in a new and unique light. He considers that the bacillus is not alone responsible for the spread of tuberculosis. He claims there is a tubercular poisoning as well as a tubercular infection. Reference is made, for illustration, to Koch's tuberculin, which has been absolutely sterilized,

and which produces when injected constitutional disorder, elevation of temperature, etc. Of course the usual test dose of tuberculin has no recognizable disturbing effects on the healthy animal system. He dwells also on the fact that a small quantity of tuberculin on a tuberculous subject will cause a rise in temperature, and the destructive influences going on in the seats of the tubercles will be accelerated.

In short, Law claims that it is this extension of tuberculosis under the influences of the toxic products of the bacillus which raises the most important question in connection with the consumption by man of the flesh and dairy products of tuberculous animals.

Accepting this view, the presence of the toxins in the blood, flesh and milk, it follows that those who eat the flesh, etc., are taking in continually small doses of tuberculin, and that, in case they are already the victims of the disease, in however a slight degree, or indolent form, this continuous accession of the poison will rouse the morbid process into greater activity and secure a dangerous extension. Of course, according to this light, the canning and sterilizing of meats and milks are nugatory.

He relates having followed up cases of calves that were unthrifty, although consuming the whole of their mother's milk, and that these same calves thrived better after weaning, and when they grew up and were slaughtered, of having found old, calcified tubercles which pointed back to the time when they sucked the infected and poisonous milk.

Of course, Prof. Law has not conclusively proved that these toxic solutions are capable of communicating tuberculosis, and yet a new and valuable field is opened up for investigation. As to my own practice in our abattoir, I have endeavored to follow a conventional policy in the rejection of tuberculous animals.

1. Where the disease is general, or exists in more than one region of the body, I invariably condemn the entire carcass and all the organs.

2. Where the disease is local, and the part or organ profoundly affected (as in the liver case mentioned above), I condemn the whole carcass and all the organs.

3. Where the disease is local, and the part or organ not much altered, I simply condemn the part or organ thus slightly affected.

From March 10 to April 10, 1894, there were 22 cases of tuberculosis met with in the Crescent City Slaughterhouse; 12 of these were condemned in their entirety, 10 of these were rejected only in part.

I failed to mention that the general condition of the animal also has a great deal to do with my disposition of the carcass. If there is a decided cachexia, even though the disease be not widespread, the carcass is summarily sent to the rendering establishment.

In Copenhagen the law provides that the milk from a dairy shall be excluded from sale when it can be shown that a dangerous infectious disease exists among persons employed in the dairy, or among the cattle. We have practically no dairy inspection in our State or municipality, but I hope the time is not far distant when the State or city will appropriate liberally for this valuable work.

It would be difficult to estimate the benefits of dairy inspection, not only in reducing the dangers of tuberculous infection, but a thorough vigilance over the dairies promises to shed light on the origin of such diseases as diphtheria, typhoid fever, etc., which are still shrouded in much obscurity.

Now, gentlemen, what are we to do in the face of these stubborn facts? The time for action has arrived and stringent measures should and must be adopted to reclaim our dear old city from the dangers that beset her.

In order to accomplish this it will require the united efforts of our State Legislature, our municipal authorities, our local Boards of Health and the whole medical and veterinary professions.

We need a more perfect system of meat and dairy inspection and I ask your co-operation here to-night in aiding me to carry out some definite plans in that direction. I ask your endorsement as a medical society, and invite your personal influence in fostering this cause.

I shall now give you an outline of the method now in vogue in the different parts of the country for detecting tuberculosis in cattle :

I have referred to the tuberculin method. The work thus far accomplished has been chiefly of a private nature, although legislative enactments are now pending in the various States to generalize dairy inspection.

The first injection of Koch's lymph in veterinary medicine was made by Prof. Gutmann, at the Veterinary Institution of Dorpat, Russia, January, 1891.

The first similar injection made in this country was done at the Veterinary Department of the University of Pennsylvania, at which I was fortunate to be present, being a student there at the time.

Before proceeding, I must impress upon you the difficulty of a mere physical examination in detecting the presence of tuberculosis in the bovine species, auscultation and percussion being very unsatisfactory, and the stethoscope being almost useless on account of the crepitation against the hair of the animal. The results of the various tests of tuberculin as a diagnostic agent, both in Europe and in this country, covering several thousand cases, have been almost uniformly favorable.

Professor Dieckerhoff, writing in the Berlin Veterinary Weekly, declares: "The proof which has been presented to our readers is more than sufficient. Its results are absolute and gratifying, and show that tuberculin is a reliable agent for detecting tuberculosis in cattle."

It would be superfluous for me to give a list of the various experimenters and leaders of scientific work who endorse this method.

The statistics for the past three years have been pouring in from all sides, telling the same story and teaching the same lesson.

The dairymen in the East, appreciating before the public authorities the value of tuberculin in ridding their dairies of this pest, have taken the initiative, and have come forward in a most generous way in offering every opportunity to the veterinary profession to test this new substance.

Some have had their herds decimated; others have seen their entire herds destroyed with true stoicism.

Mr. Gillingham, of Philadelphia, was the first, I believe, to make a liberal sacrifice on the altar of science, in allowing



about 25 highly-bred cows to be slaughtered in order to confirm the results of experiments.

Mr. Hawley, of Pittsford, N. Y., recently determined to destroy his entire herd of pedigreed animals, numbering 160, being satisfied they were affected with tuberculosis.

The method of using tuberculin is as follows: A 10 per cent. solution is made in a 1 per cent. solution of carbolic acid, and of this dilution 2.5 to 5 c. c. are injected beneath the disinfected skin of the scapular region. The injection had best be made about 6 P. M., at which time the temperature of the animal is taken.

The temperature is taken for fifteen hours, at intervals of three hours. If an elevation beyond the normal variation occurs, say 103 deg. to 105 deg. F., it is a reaction, and the animal has tuberculosis.

Out of 264 animals tested, 262 reacted and 258 of these were positively tuberculous, 4 being non-tuberculous. This gives an idea of reliability of the agent. These 264 were tested by persons who were by no means experts, and any failure can be attributed more to lack of skill on the part of the experimenters, than any imperfection of the method.

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#### A CASE OF CIRCUMSCRIBED SCLERODERMA OR MORPHŒA.

BY GEORGE KREEGER, M. D., DERMATOLOGIST TO THE Touro INFIRMARY.

Scleroderma, although a rare disease, is always to be regarded with interest by the dermatologist on account of the supposed identity of the circumscribed form with morphœ or Addison's keloid.

It occurs under two forms—diffuse and circumscribed. By nearly all European and most American dermatologists, circumscribed scleroderma and morphœa are regarded as different names for one and the same disease, as neither clinically nor pathologically can any difference be made out.

It is not my idea to write an article on this subject, however, but merely to present the history of a case that has recently come under my observation.

R. U., 75 years, an intelligent and a remarkably healthy

looking and well preserved man for his age, consulted me several weeks ago.

He said he wanted to be treated for "some spots" on different parts of his body—on his hands principally—but also on the penis and scrotum, as well as upon his scalp.

They have never caused him any inconvenience, and merely on account of the peculiar appearance they caused did he desire to be treated.

He says about five years ago he first noticed the appearance of a white spot on the backs of his hands, and later a spot also appeared on his penis, and still another at his scrotum.

Some time later his scalp became similarly affected, though on account of its position he is unable to say exactly when the first occurred, as when he saw it for the first time it was quite large and had very evidently been present for quite a while.

These spots gradually became larger, especially those on the back of the hands and scalp, until about one year ago, since which time he does not think they have grown in size to any extent.

Coincidentally with the enlargement of the spots a change of color took place—the dead white giving place to a pinkish color, with now and then a much darker spot, giving rise to a mottled appearance.

He also noticed that "there seemed to be veins running across in various directions."

In addition to changes in color there took place, he states, a decided thickening of the skin corresponding to those spots, which seemed to have a distinct line of demarcation separating them from the healthy skin, and which gave rise on the hands and scalp to a feeling of tension and interfered somewhat with the natural movements of the part. At no time, however, has the skin not been freely movable over the underlying tissues, and never have there been any subjective symptoms beyond the feeling of tension already referred to.

About three years ago a spot appeared on his chest about as large as a silver dollar, which seemed to progress about the same as the others, but has entirely disappeared, leaving no atrophical spot.

The hairs covering the spots have never been affected.

Has always enjoyed good health, never having had a severe spell of sickness during his life, although of late years has been bothered considerably with lumbago. Has never had articular rheumatism. Gives no history of venereal or nervous disease. Family history: Father died of apoplexy and mother of consumption. Has had several brothers and sisters, none of whom have ever been similarly affected.

Present condition: On the backs of both hands I find two oblong, irregularly shaped and sharply defined spots, about  $2\frac{1}{2}$  to 3 inches long by about  $\frac{3}{4}$  to 1 inch wide. These spots are somewhat atrophied, although not to any very marked degree, and are freely movable over the underlying structures, and have quite a number of small blood vessels running over the surface. They are a little depressed below the surface of the normal skin.

In color they are somewhat mottled, varying from white in certain places to a violet red color in others, and very distinctly separated from the bronze color of the surrounding normal tissue.

There seems to be no disturbance to the growth of hair on the spots. No alteration of sensation, nor are there any subjective symptoms, such as itching, burning or pain, even on pressure, present—merely a slight feeling of tension.

On the scrotum is a patch about one inch by one and one-half inches, irregularly oblong, with margins not so well defined as the spots on his hands. Here there has been no atrophy and the skin feels thickened.

This spot is surrounded by distended capillaries, and the color of the spot itself varying from pink to almost blue makes it quite a typical patch of circumscribed scleroderma or morphea.

The scalp also has quite a large patch—the largest on his body, being about four inches by four inches, irregularly circular and sharply defined from the surrounding normal skin.

The scalp is thickened and not very movable. Patient complains of a very marked feeling of tension. This patch is very nearly white, without the characteristic capillaries or coloring. The growth of hair has been in no way interfered with,

as the patient has a splendid head of hair, especially so for a man of his age.

As regards his general health nothing could be elicited that could have any bearing on the causation of the disease. All of his organs were examined and no disease discovered. Patellar reflex normal and no tender points anywhere along the spinal column.

As to treatment, unfortunately I have nothing to report, as the gentleman discouraged by my unfavorable prognosis declined to go under treatment.

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#### ON A CASE OF HYSTERICAL ALEXIA, CURED BY SUGGESTION.

By B. A. POPE, B. S., M. D.

The case is of especial interest on account of its clear-cut character and because of its easy and prompt cure by suggestion.

M. S., 13 years of age, complained of inability to read or sew, and also of indistinct vision at a distance.

The menstrual flow was being established and the little girl was under the care of Dr. W. E. Brickell for her general health.

The child had always been bright, alert and cheerful, and learned with ease until the establishment of the menstrual function. Since that time she had become quiet, depressed and complained of almost constant headache. The little patient was referred to me by Dr. Brickell on account of her inability to read, and also because of the sudden dilatation of the pupils noticed at times.

At the time I first saw her she was markedly anæmic, appeared to be rather indifferent to her surroundings and complained of dull headache.

There was also inequality of the pupils and mild photophobia, the latter only noticeable in bright light.

$V = \frac{20}{200}$  each eye without glasses, and she was unable to read type smaller than Snellen No. 3.

When I tested each eye separately, excluding the other with *my hand*, she saw no better.



But when I placed a trial frame on her, excluding the other eye with an opaque diaphragm, she would see  $\frac{20}{200}$ , and read Jaeger No. 1. This was true of each eye separately, and of both together, as long as the trial frame remained on her face.

On removal of the trial frame, making no other change, her vision fell to  $\frac{20}{200}$  again. The same good result was obtained when I placed weak convex or concave glasses, or a plane glass before the eyes, but she made no pretence of seeing better when the glass was one which really must have made her vision worse.

Under atropine I found  $H = 0.50$  D. each eye. I repeated these observations on February 28 and found exactly the same condition.

I then informed the child's guardian and Dr. Brickell of the condition, and also of the deception I intended to practise upon her.

I prescribed  $+0.25$  Dsp. for each eye, and gave a weak cocaine and boric acid solution to be dropped into the eyes three times a day. The glasses were to be worn constantly. I gave  $+0.25$  Dsp. because it was within the degree of hyperopia, and for fear some indiscreet person (optician, for instance) might tell her that the glass had no power. A plane glass gave the same effect, but was open to the latter objection.

I carefully impressed upon her the *strength* of the glass, and also that it was one with which any one ought to be able to read and *must* see well near and far.

Since that time she reads and does fancy work, sees well at a distance, has no photophobia and no pupillary disturbances, and her general condition is improved.

Such cases are not remarkably rare, and are often overlooked.

The child had evidently associated with children who wore glasses, and, in the peculiarly susceptible condition of puberty, became convinced that glasses were necessary to good sight, and especially to reading and sewing. It will be noticed that the case is not like hysterical amblyopia.

It is more like some recent German cases, except that

those are usually in boys under the age of puberty, and so lack the distinct sexual side.

The cure was, of course, purely one of suggestion, as such a glass would have no real effect.

Vision without glasses is now better.

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### GEOLOGY AND MEDICAL SCIENCE.

By OTTO LERCH, A. M., PH. D., M. LATE ASSISTANT STATE GEOLOGIST OF TEXAS AND GEOLOGIST OF LOUISIANA.

Within the knowledge of the writer the relation of geology to medical science has not been sufficiently discussed, and yet seems of importance, and especially at present when the revelations made by modern investigators have placed the study of the origin and propagation of disease on a broader level. Geology no doubt has influenced the advance of the medical sciences, and in the following pages an attempt will be made to show the importance its study ought to possess for every practitioner. Geology is the study of the history of our earth, and as our globe is but one of the smallest satellites of the sun, and the planetary system to which it belongs is but one among myriads, it is evident that the earth is in the universe like a grain of sand in a desert. Yet the laws which govern it can be recognized throughout the immensity of space; gravitation, which prompts the waters to flow to the ocean, keeps the planets circling around the sun. Light coming to us from the distant nebulae so far that they can be seen only with powerful instruments proves that the matter which composes them is the same which forms our planet.

“The earth, therefore, although but an atom in immensity, is immensity itself in its revelations of truth; and science, though gathered from one small sphere, is the deciphered law of all spheres.”— *Dana*.

This science which reveals the unity of the “world” enables us to trace our own relation in it and to find ourselves subject to the universal laws and merely an integral part in the ever progressing change of matter prompted by the unchangeable laws of the universe. Geology teaches the formation of our planetary system from an original nebula and the gradual

progressive development of our individual planet from a fiery globe to its present shape.

With the dawn of life it traces the dependence of all living creatures upon the geological conditions of the globe. As long as these conditions are uniform life is uniform, and changes only with each change produced in them. Gradually simple conditions become diversified, and with the separation of water and continent, with the formation of mountain and plain, river and lake, sea beach and valley, the low forms of early life develop cryptogamous seaweeds into phænogamous trees and plants, and lowly molluscan forms, inhabitants of palæozoic seas, into highly developed mammals. Finally we approach the modern era in the geological scale. Traces of man, at first and but few scattered in quaternary deposits, rapidly increase in number and range, and at last his bones and evidence of his presence are found everywhere, so that he is considered by the geologist the leading fossil of recent deposits.

If this then demonstrates the intimate relation of geology to man, it can hardly be a question of dispute that his state of health and disease is dependent upon the geology of the country which he inhabits. If we observe him in places where his ancestors have lived for generations, we find him part of a nation with peculiar traits and habits entirely different from those of other nations, developed by his surroundings. Mountainous regions and rugged seashores produce hardy races; low lands with a southern clime, people of less strength. Many are the deviations which we find between the extremes, each locality forming modifications of the original type. A study of the country will lead to a thorough knowledge of the subject it has produced, and will give us, as it were, an ideal stem upon which disease is engrafted. Disease has been defined to be a condition of the body in which one or more of the functions of life are not properly performed. It can readily be seen then that health will be best with those best adapted to their surroundings. In the present age of migration and travel such an adaptation of the individual to its surroundings will be found rarely complete, but those will be most successful in preserving health who can most readily adapt themselves to new surroundings—that is, meet the new requirements which a change of

abode of themselves or their ancestors imposes upon them. With a proper knowledge of geology this can be more readily achieved, and the physican is expected to guide those whose health has been impaired by such change, and who themselves do not possess this knowledge.

The condition of air which man breathes is determined by the geography and geology of the country in which he lives, and its change of temperature and humidity depend largely, if not solely, on geological features. The quality and quantity of water he drinks, and which a civilized nation uses in such enormous quantities, is dependent upon the geological formation upon which it falls, through which it percolates and upon which it flows, together with the geology and geography of larger districts and of the whole continent. The food he eats is mostly derived directly from the country he inhabits and his very occupation depends on its geology. Agriculture he will carry on in alluvial plains, mining in mountainous districts, and his cities he will build on the seashore and along the larger streams. These are the main factors upon which health and disease depend, and a practitioner who can fully appreciate their value will likely be more successful in the cure and protection of his patient than he who merely treats the disease, neglecting the consideration of its remote if not always direct cause.

Dr. J. B. Elliott in his monograph, "Diatheses and Cachexiæ," after dwelling on the importance of the variability of the "constitutional make-up" of patients and the consequent varying response to medicinal treatment, puts forth *that its study ought to form a new phase in the development of medical science*. The fundamental conditions underlying every system he classifies as "constitutional types, diatheses and cahexiæ." If we consider man a product of the country from which he springs we can well understand that his make-up must vary as much as the country of which he is but a reflection differs from other countries; a fact so frequently overlooked. Mountains and valleys are mountains and valleys everywhere and yet the study of their formation, their history, is filling our geological libraries. How much more complex, and certainly as important for the physician as is the former for the geologist, is the study of the fundamental constitution of man and the history of its development.



According to the definition of Dr. Elliott, a constitutional type must be inherited, a diathesis may be inherited, and a cachexia must be acquired. These various types are more or less conditioned, and if we take in consideration that the mode of life is dependent upon the country, they are determined by the geology of the country. With the views of this distinguished teacher we find that the constitutional type, formed through many generations, can not be induced and is permanent. Therefore its study ought to underlie the investigations of the modern practitioner, and in inquiring into the history of his patient the knowledge of his former abode and that of his ancestors will most likely lead to satisfactory results and clear up dark points of diagnosis. A diathesis which may be inherited evidently must in all cases be engrafted upon the constitutional type, and its study ought to form the second step in the systematic investigations of the practitioner. Being of more recent origin and its cause less complex, it will be less difficult to diagnose, more strongly reflecting the habitude of the individual.

Of the cachexiæ, when viewed in this connection, the malarial and the scorbutic are the most important, and though engrafted upon the constitutional type, and frequently upon a diathesis, or rather a blending of both, their diagnosis will be easy, owing to the fact that they are acquired only by the individual, their symptoms are yet unobscured, and a mere mention of residence will suffice to corroborate the suspicions of the physician and make his diagnosis certain. If it be granted that a knowledge of the country geology and a general geological knowledge will aid the diagnostician to determine these constitutional states which are part of the very system of his patient, it will not be denied that this knowledge must be even of a greater importance to him who bears in mind their cause.

The acquisition of these derangements takes many years, and their correction can frequently only be successfully attempted by proper change of residence. The knowledge necessary for the selection of such residence can not be obtained from hearsay, from the columns of our large daily newspapers or from articles written for popular magazines, but must be obtained by the study of geological literature coupled, when

necessary, with personal inspection. Too frequently information gained from the quoted unreliable sources has brought the physician in bad repute and has proved ruinous to his patients.

Numberless instances could be cited of loss of life and suffering due to the ignorance or gross negligence of the medical adviser. Let it suffice to mention that the Western prairie regions, though possessing altitude and dryness, are unsuited for consumptives. The north winds blowing from the pole to the gulf for days at a time over these table lands often change the temperature from 60 deg. to zero in less than an hour, and the penetrating qualities of these winds, called blizzards in the Dakotas and northers when they pass into Texas, generally accompanied by clouds of dust, are not commendable for these invalids. The difference between the daily maximum and minimum temperature is large in consequence of the topography and botany of these regions dependent, of course, on their geology, another feature but little suited for the strumous and phthisical. However, the whole interior basin of this continent between the Apalachians in the East and the Rockies in the West is swept by north winds; but few places possessing the required qualities can be found, and these must be selected with care.

Noted mineral springs, though of desired medicinal properties, will do more harm than good if the consideration of the relation between the type of the patient and the geology of their location is neglected. Finally, geological knowledge will enable the physician after examination of the water-bearing beds and the drainage to pronounce the well water of the district suitable or the opposite, for drinking purposes and he can not carry on hygienic surveys of rivers without assistance derived from geology.

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#### HYDROSALPINX PROLAPSED INTO DOUGLAS' POUCH—HYDROSALPINX DRAINED THROUGH THE UTERUS—CHRONIC SALPINGITIS AND OVARITIS.

By AUGUSTIN H. GOELET, M. D.,

[A Clinical Lecture delivered at the West Side German Clinic, New York.]

GENTLEMEN—The first case I will show you to-day is one of hydrosalpinx. The right tube is distended to about the size of a hen's egg and is prolapsed into Douglas' pouch, bend-

ing the uterine end upon itself. This produces complete occlusion and prevents drainage into the uterine cavity.

The patient, Mrs. S——, aged 27 years, has been married six years, but has never been pregnant. She suffered during the past year with severe backache and pain in the right ovarian region, with dysmenorrhœa and a profuse mucous leucorrhœa. The uterus is in good position, being only slightly anteflexed, and the tube and ovary of the other side appear to be normal. We have been able to relieve her pain and backache by means of fine wire faradization and she has passed one period with comparative comfort, but it is impossible to remove the tube from its abnormal position, though it does not appear to be adherent. If this could be done, and if it could be maintained in good position, it might be possible to overcome the occlusion and drain it into the uterine cavity, and thus accomplish a cure without resorting to an abdominal section. My experience with such cases, however, leads me to the conclusion that an exsection of the tube is the only means of affording her permanent relief. I shall therefore advise operation. If she consents you will have an opportunity of witnessing the operation and verifying the diagnosis.

In some of these cases the treatment instituted in this case will afford complete relief of all the symptoms, which will be prolonged for a considerable time, so that if the patient refuses to consent to an operation or there is any other reason why it should not be done, and she is not obliged to work for a living, she can be made quite comfortable. Treatment may be suspended when relief is obtained, but should be recommenced upon a return of the symptoms. I recall a similar case upon which I operated about a year ago. She at first refused operation and two months' treatment relieved her absolutely of every symptom. She was warned, however, that the relief would not be permanent. She presented herself three months later, stating that she had suffered no inconvenience since discontinuing treatment, except a slight backache during the last week. The local condition was found to be the same, no alteration in the size of the mass being appreciable. A month later, though there had been no recurrence of the symptoms, she consented to the operation on condition that only one

ovary would be removed. The operation was entirely successful and the patient is in excellent health to-day. The tube was not adherent in Douglas' pouch and the ovary and tube on the other side were normal.

CASE II. The next case is also one of hydrosalpinx, in which, so far, an operation has not been necessary and the patient's general health as well as the local condition is improving every day.

The patient, Mrs. J., aged 27 years, has been married five years, and has had one child and one miscarriage, since which she has been in poor health. She has been under observation for something like eight months, though she has not come regularly for treatment. As so many of this class of patients do, she has frequently suspended treatment for several months when she had experienced relief. When she first came under my observation she was greatly emaciated from constant suffering, but as you see now her general condition is very fair.

The uterus was at first retroverted and fixed, both ovaries and tubes were dragged out of position and the left tube was distended to nearly the size of that in the other case I showed you. The whole vaginal vault was exquisitely sensitive, and an exact diagnosis could not at first be distinctly made. The treatment first instituted was vaginal faradization. Later, when the sensitiveness had to a great extent been overcome, mild galvanic applications of the negative pole were made to the endometrium, and these were followed each time by vaginal faradization. We were shortly rewarded by observing immediately after the application a rather free discharge from the uterus and an evident diminution in the size of the distended tube, showing that drainage by the natural channel had been established. This occurred after the second or third application to the endometrium. After the uterus had been rendered movable and it could be replaced, it was supported at first by tampons, and later by a carefully adjusted pessary.

You will observe upon examination that the uterus now retains a normal position when the support of the pessary is removed. The tube is not distended, and though not to be considered perfectly normal, it is evidently giving no inconvenience.



I believe that under favorable circumstances this patient can get entirely well, though the outlook at first was not encouraging.

The same result may be brought about likewise when the tube is distended with pus if there is not actual occlusion of the uterine end of the tube. In the majority of instances of moderate distention, unless the tube and ovary are prolapsed, producing occlusion, I believe the obstruction at the uterine end is due to tumefaction of the mucous membrane and can be overcome, allowing drainage into the uterine cavity. Where there is actual occlusion, however, immediate steps should be taken to remove it. There is not that danger in temporizing in these cases of moderately distended tubes as some would make you believe, because the distal end of the tube is sealed by inflammatory action at an early stage, and leakage into the peritoneal cavity is out of the question unless rupture occurs, which is exceedingly improbable. This is perfectly rational, for it would evidently be impossible for the tube to become distended unless the distal end is occluded. If it remained free there would be constant leakage into the peritoneal cavity, as that end of the tube is larger than the uterine end and is dependent, hence less liable to become obstructed.

CASE III. The next case is one of chronic salpingitis and ovaritis which has been under treatment for two weeks.

The patient, Mrs. McE., aged 24 years, has been married four years but has never been pregnant. She had some dysmenorrhœa previous to marriage, and this became very much worse after, and she suffered with constant pelvic pain and backache, very much exaggerated by walking or standing. She had a profuse muco-purulent leucorrhœa when she first presented herself for treatment, but this is now much less and thinner in character.

The vaginal vault was exquisitely sensitive to pressure on both sides of the uterus. The ovaries could be distinctly palpated and were found to be enlarged and tender, but the tubes could not be clearly made out because there was considerable infiltration. The endometrium was in a condition of granular inflammation, which was, no doubt, the origin of the tubal inflammation.

You will observe on examination all the physical signs I have mentioned, but you see she bears the examination now very well because the tenderness has been overcome by the treatment she has received, which has consisted of moderate negative galvanic applications to the endometrium and faradization of the vagina. The tubes can now be made out because the infiltration has been removed and are found to be much thickened, as was to have been expected. The patient has been greatly relieved in the short time she has been under treatment. She has comparatively very little pain and can now walk several blocks without inconvenience, a thing that was out of the question before. There is no reason whatever why this patient should not get entirely well. She will get well under the line of treatment which has been instituted and be able to perform her household duties as well as she ever did. The question may be asked, will she become pregnant? That I can not answer positively, yet I can see no reason why this will not be possible. My experience with these cases convinces me that under favorable conditions they may be cured without resort to operation. If the patient will exercise even ordinary care, and the attendant will faithfully and patiently carry out the treatment, their efforts will be successful. You will have the opportunity to observe this case from time to time to note the method of treatment and the improvement in her condition.

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## Proceedings of Societies.

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### PHILADELPHIA COUNTY MEDICAL SOCIETY.

#### GOUT AND THE TEETH.

By HENRY BURCHARD, M. D., D. D. S.

This paper as originally written was titled "Diseases of the Teeth with which Medical Men should be Familiar." Since then, I have seen in the *Transactions of the Pennsylvania State Dental Society* an article by Dr. Brubaker, which deals at length with the question of reflex disturbances having

origin in disease of the teeth. In view of the existence of that able paper it would be idle to attempt extensive addition.

There are two things, however, which are worthy of the respectful consideration of every physician or surgeon. By far the most common cause of trigeminal neuralgia is some disease of the teeth. This may be the exposure of hyper-sensitive dentine; an irritation or inflammation of the tooth pulp; any degree or type of pericementitis; and retention of fragments of teeth after attempts at extraction. To these must be added encysted teeth, or those which have such malposition that eruption is deferred or impossible.

The dentist alone is familiar with the number of cases of trifacial neuralgia, spasmodic closure of the jaws, etc., which find relief through dental ministrations.

There is too much disposition among medical men to view teeth as little more than possible signs of hereditary syphilis, and the cause of gastro-intestinal disturbance in children; beyond this the majority of physicians do not concern themselves. This does not apply to specialists in ophthalmology and rhinology; they frequently consult with the dental practitioner for possible sources of irritation in and about the teeth.

Dr. Brubaker quotes Galezowski, that he always examines or has examined the teeth of his patients.

Certainly the most eminent men of the medical fraternity recognize what an important part the peripheral irritation, arising from dental diseases, plays in the causation of other and more serious maladies. Every one is of course familiar with the work done by Dr. Miller, of Berlin, in dental bacteriology. There is another subject for consideration to which he calls attention—the number and variety of pathogenic organisms which find an ideal breeding place in the human mouth. All the pyogenic cocci; those of septicæmia, of pneumonia, of actinomycosis, etc.

The more dental disease remains uncorrected, the more flourishing the colonies of these organisms.

Another matter, simple to be sure, but one in which eminent medical men have frequently erred—the distinction of diseases of the dental pulp and of the tooth's periosteum. The pulp of the tooth is not its tactile portion; it is rather that of special sense, the thermal; for thermal changes are about the only cause of response in the healthy pulp. The tactile function resides in the tooth's periosteum, the pericementum.

Teeth which respond to concussion or pressure have the pericementum, not the pulp, affected; in these cases the pericementum will be found dead, decomposing, or absent. *Vice versa*, those which respond to thermal change, as a jet of cold

water thrown in the cavity, have the pulp affected. In the latter case, sedatives, warm syringings, and stopping are in order; in the former such measures would serve to increase the difficulty through retention of irritating materials; they require antiseptic washings, such as 15-volume solution of  $\text{H O}_2$ .

After marked pericemental inflammation, abscess usually supervenes. All counter-irritation in these cases should be in the mouth, localized over the gum of the affected tooth. In these cases much damage is done, even to-day, by the use of poultices.

There is a disease of the dental periosteum which has for years attracted much attention. It is known as pyorrhœa alveolaris, or better termed phagedneic pericementitis. This disease is the cause of the loss of as many, if not more, teeth than dental caries. As the name implies, it is a progressive destruction of the tooth's periosteum. Erosion of the teeth is another disorder known to dentists.

The purpose of this paper is to point out the association of these disorders with the uric acid diathesis, and their striking likeness to gouty affections.

So much confusion has arisen during the discussion of papers on this subject, all due to conflicts of definition, that two will be here premised as bases to work from. They form the reason for such opinions as are here enunciated. Stress is laid upon this matter, as it is desired to point out the probability of these dental disorders being accepted as pathognomonic of the gouty disorder. Whether gout be unquestionably present or even suspected, it is confidently believed by the writer that the dental symptoms are conclusive evidence of a condition akin to, or identical with, the gouty; that its three stages—tooth induration, altered secretion of glands, and degeneration of pericementum—are expressions which receive value as diagnostic signs in the order named, representing the earliest, the stimulative; the second, the irritative, and third, the inflammatory stages of the gouty diathesis.

The uric acid condition is one arising through faulty metabolism, causing the production and retention in the circulating fluids of an excess of uric acid. Followed by the changes of tissue degeneration, or those arising from the presence of a constant irritant in any member of the connective tissue group. This leaves open the all-important question of the exact origin of the waste product. According to all authors heredity plays the important part as a predisposing cause. An ingestion of an undue amount of nitrogenous food, or the increased consumption of malt liquors or heavy wines is the exciting cause. Prominent among the attendant disorders is fermentative dys-



pepsia, a complexus of symptoms known as portal engorgement, cirrhosis of the kidney, and subacute or chronic inflammation, or rather irritation in any of the fibrous structures.

*For Dental Diseases.*—Dental erosion is a progressive loss of tooth substance through a process of decalcification, a chemical solution of the lime salts of the teeth, evidently not associated with dental caries and which the therapeutics of caries does not check. Its action is largely confined to those portions of the teeth in contact with the labial and buccal mucous membrane.

Phagedenic pericementitis is a degeneration of the retentive apparatus of the teeth which arises without mechanical violence, specific virus, or the selective action of drugs, and proceeds to its termination with or without the formation of calcic deposits and true pus (although the pus and deposits are usual associates), the process terminating with the loss of the teeth. It is unusual to preface the pathology of a disease by its clinical history, but it will be more clear in this instance. The teeth attacked are dense and hard; the variety which resist the causes of dental caries. Men and women are alike subject to it. As a rule the disease is evident only after the patient has attained an age of thirty or over. Although it does exist in some cases before that age, its occurrence is unusual.

There are two types of this pericementitis, depending upon the portion of membrane first attacked. The more common, and as some erroneously suppose, the only type, begins as a marginal gingivitis. The earliest symptom is a deepening of color and a softening of the gum tissue at the neck of the tooth. The inflammatory appearance increases, and by the time case receives attention the close attachment of the gum to the tooth at this point is lost. Pockets are thus formed in which are found concretions, and pus is oozing or may be pressed from the pouches. This process continues; there is degeneration of the pericementum; an inflammatory degeneration, or a molecular necrosis; increased deposits of lime salts are found as the denudation of the tooth proceeds. The attachment of these teeth lessens particle by particle, thus adding another source of destructive irritation, undue mobility. One by one they lose their retentive apparatus, the pericementum, and are extruded, cast off, as foreign bodies. This ends the process; there is no tendency toward extension to the maxillary periosteum. At the utmost this may be destroyed at the edges of the alveolar process and we have a slight amount of molecular necrosis at that point in consequence. The deposits are usually hard and scaly, strongly adherent. In contradistinction to the ordinary salivary calculi, they are found beneath the gum, not on it.

The disease either persists or recurs despite all local therapeutics. It is this more than for any other reason that the condition has been ascribed to a constitutional cause. As for the dental erosion we find in teeth of good structure a loss, particle by particle, of the enamel, and after this the dentine. This is in such situations that the ordinary solvent, lactic acid produced by the action of micro-organisms is in the least amount. This is the essential difference between erosion and caries. The process is usually seen when one of the superior anterior teeth is attacked. Commonly a groove or grooves may be seen, caused by a loss of enamel upon the labial faces of one or more of these teeth. The amount of enamel surface (that containing the greatest amount of inorganic matter) affected is greater than that of the dentine. This is the reverse of the process of dental caries. These spaces of denudation are in such situation, and of such shape, as to exclude any cause except that arising from altered secretion of the mucous glands about the parts. Dr. E. C. Kirk, the editor of the *Dental Cosmos*, who has devoted much time to investigations as to this condition, has found an almost constant association of it with gout.

In most cases a history of heredity and acute outbreaks. If the patient had not yet been the victim of gouty disturbance he or she did become so, sooner or later. This is for disease with an incipient expression in mucous structures.

Cases are recorded of teeth in which the tissues about the necks of the teeth are intact; and yet, disassociated from any of the usual causes of pericementitis, we see evidences of a localized inflammation of the pericementum somewhere between the apex of the root and the neck of the tooth. The disease area spreads until there is a destruction of the entire pericementum and the tooth is lost. These cases may show no evidence of the formation of true pus until near the end, when micro-organisms gain entrance through a loss of continuity of the tissues at the neck of the tooth.

Dr. Kirk has in his possession a lateral upon which there is a destruction of the apical half of the pericementum and much of the cementum; the remainder of the membrane was intact. In this necrotic area, and near the apex, was a deposit—a calculus evidently formed in the pericementum, for its attachment was so slight that it was lost. This prevented chemical analysis.

The deposits taken from these teeth have been analyzed. While some give the murexide reaction, certain others, with a clear history of gout, show not the slightest trace, being composed of phosphate of lime.

All local causes having been found insufficient to explain the course and phenomena of this particular disease, a constitutional disorder has been deemed a necessary condition for its existence. The persistence after removal of local causes assures us in such a position. Search has been made among general diseases for one which would produce a degeneration of articulative tissue with an accompaniment of crystalline deposits. In the practice of medicine but two such diseases are known—rheumatism and gout—including here as close associates of gout, rheumatoid arthritis and lithæmia. The pathology of rheumatism does not explain or agree with that of phagedenic pericementitis. We are thus driven by a process of exclusion to viewing gout as the predisposing cause. The question now is, will the pathology of gout explain every stage of the dental disease?

Gout is hereditary in a large proportion of cases; not that this nor any disease, except in a few rare instances, is inherited, but regarding heredity as the expression of the transmission of a type of tissue. That women, who are not commonly the subjects of gout, are the victims of phagedenic pericementitis, is not an argument against gouty origin; for rheumatoid arthritis is the form assumed by hereditary gout in the female (Da Costa).

In the individual who has such a family history there is a predisposition to the formation and non-elimination of an excess of waste material of nitrogenous origin. It is rational to conceive this process as one of gradual growth; although decided manifestations of the morbid influence of the retention of these waste products do not assert themselves before middle life, the predisposition exists, and the disease process probably extends over a period before becoming recognized, the body at large resisting the morbid influence until the power of combating it is lost at some weak point or points, and the disease asserts itself. Its effects may be so insidious that our means of discrimination are insufficient to discover any aberration from any ordinary healthy standard. Like any other general irritating substance, it may be present in any amount; all other conditions being alike, the effects are in direct ratio of the amount. Results of the action of these pathogenic materials would be most evident in peripheral parts—that is, in situations where there is a scarcity of blood vessels surrounded by fibrous tissue, the least vascular parts being the first to suffer. According to the degree of irritation, we may have any stage of vascular perversion, from a slight increase in the flow of blood to the stasis which precedes necrosis; in the cellular elements, any stage from the stimulation which promotes con-

structive metamorphosis to the paralysis resulting in coagulation necrosis.

The most important of all questions relating to this matter is the exact mode of production of these waste products. Until it be ascertained whether this is an expression of faulty food metabolism or of an incomplete retrograde tissue metamorphosis, we are in the dark. Again, what part may be performed by the excretory organs and the oxygen-carriers of the blood. We may suspect the blood corpuscles to have a close relation, as there are splenic changes present. Apropos of this, the thyroid gland and bone-marrow should also be involved; otherwise we have grounds for the formation of further hypotheses as to the physiology of the spleen.

It is by no means clear what influence the liver has in the production of gout. One would infer from a reading of some of Lauder Brunton's works that he suspected that organ to be largely at fault. It is presumed that any body—any crystalline substance—resulting from causes similar to those producing uric oxide would have analogous action. We know that xanthin, or, as it has been called, urous oxide, does form nuclei of cystic calculi.

Inflammations of fibrous structures arising from such source are, perhaps, more common than supposed or conceded. The presence of an irritating product, such as uric acid, even in slightly increased amount, could produce widespread disorders of a not severe type, and render inexplicably obstinate many disease processes usually amenable to treatment.

For purpose of comparison as to the active diseases, general gouty condition, and marked phagedenic pericementitis, Ebstein's theory fits best. It is a nutritive disturbance first, leading to necrosis; and urates are deposited in the necrotic area.

For the minutiae of the dental trouble, first, the unusually hard and dense teeth, very commonly the subjects of pulp calcification. Accepting the uric acid diathesis to be a condition long existent, there will be for some period present in the circulatory fluids an excess of the irritating waste product, uric acid. From this there will be structural alterations in peripheral parts. Stimulation of the peripheral cells of the dental pulp is followed by an increased deposit of calcic material, necessarily lessening the amount of organic matter present. The density of the dentine increases; its vital parts decrease. This may continue until scarcely any vestige of vital matter is left within the teeth. They become of the variety which resists dental caries. The cirrhotic process affects the parts about the teeth; the alveolar process increases in density; the thickness



and elasticity of the pericementum decreases. In this connection it would be a matter of great interest to note the structure of the teeth in young patients who have a family history of gout.

At a period during or approaching middle life, the gouty condition being present, it will manifest itself in one of two ways, the intensity of the action depending upon the amount of irritating material present and the amount of resistance offered by different tissues. Altered secretion is regarded as a milder form of disorder than tissue change. Function, in the majority of cases, is altered before structure. The presence of waste material will cause, in peripheral glands, irritation during its elimination. There are numerous mucous glands in the labial and gingival mucous membrane. These may secrete an acid capable of acting as a decalcifying agent upon the lime salts of the teeth; this would explain the phenomena of erosion.

Function is in correspondence with structure; teeth of this type are designed for hard, vigorous usage. From their structure they are exposed to two probable sources of debility; one, that they may become through their lessening vascular supply of the nature of bodies foreign to the structures which support them; the other—it is questionable if, in civilized life, 90 per cent. of persons give their teeth sufficient use in view of this fact; for teeth of this description doing the amount of work their structure demands is out of the question. More than this, gouty patients are frequently gourmands, and indulge in food requiring little mastication.

Disuse and misuse are two prominent sources of debility in any part of the organism. The vital parts of such teeth will, therefore, come to a state of atony through disuse. Their resistive power to morbid agents will be weakened. Disease attacks, preferably, a weak part; rather, a weak part permits the existence and growth of the causes of disease. According to the evolutionist definition of life it is questionable whether a perfectly healthy part can become the subject of disease. These organs are, therefore, in fit condition for the development of disease process, through their acquired debility.

The teeth and their attachments to the alveoli form articulations; the pericementum is the periosteum of the tooth's root, and the ligament which binds it to the bony walls enclosing it—the type of tissue for which the gouty poison seems to have selective action.

According to Ebstein, the gouty process is essentially necrotic. This is in marked gout, but there must be every stage of vascular disturbance antedating the necrosis. According to

the degree of irritation will be the effects. Every medical man has seen gouty attacks, ranging from a slight metatarso-phalangeal arthritis to the variety accompanied by excruciating pain, followed by deposits in the joint. So with the teeth, the phagedenic pericementitis may be an inflammatory degeneration or a necrosis of the fibrous—in fact, of all the articulative tissue. The waste matter is now in amount sufficient to produce structural degeneration. An early angiomatous change will be a swelling of the intima; this, in small vessels, will markedly impede, if not check the flow of blood. The tissues are starved, and to the extent of innutrition there will be either inflammatory degeneration or molecular necrosis.

For the deposits, preceding their formation, there is an acid reaction in the necrotic area; the blood having lessened alkalinity, through the presence of an excess of uric acid, a substance insoluble in acids meets the acid tissues and uric acid or urates are deposited. As before mentioned, the tests of uric acids did not always, nor frequently, demonstrate that substance to be present in the dental deposits. These, as analyzed by Dr. Kirk, are frequently found to be phosphate of lime. It is probable that a small crystal of a urate has acted as an irritating point around which the calculus has formed. The deposits at the necks of teeth, just beneath the free margin of the gum, do not resemble ordinary salivary calculus, or the deposits which are found near the apices of the teeth. Their probable origin has a close connection with the secretion of the mucous glands, which lie just within the border-line of the gum. As the disease progresses these encroach more and more into the area of necrosis, or their presence forms the continued irritation which determines the persistence of the disease.

As before stated, there are cases where we have no visible signs of pus. If the disease begins at the gum margin pus is probably always formed; the analogous phenomenon of gout is the tophic abscess. Several pathogenic cocci have been isolated, but there is absolutely no evidence that the disease has such a cause.

For a summing up. There is a dental disease for which local explanations as to cause do not suffice. George B. Wood, Niemeyer, Garrod, Duckworth and Bartholow, among medical men; Marshall, Pierce, Kirk, Jack and others, among dentists, note the association of the disease with gout; in very many cases a clear history of heredity and acute outbreaks. Search has not been thorough in certain instances to determine whether or not obscure gout be present. Other cases show decided evidence of lithæmia. After the removal of all visible

sources of local irritation the disease of the teeth either persists or recurs after some lessening of the severity of the local symptoms.

Some of the cases recorded by the dentists named are as follows: The teeth of certain individuals, with or without a definite history of gout, become susceptible to periosteal irritation, even an inflammation, and this in the absence of the usual local irritants.

The ingestion of an undue amount of nitrogenous food or heavy wines is followed by one of these attacks of pericementitis. Upon a withdrawal of these substances from the dietary, there is a disappearance of the local inflammation.

There is but one deduction from this: the disorder must be due to faulty metabolism.

We have a local inflammation, due to the formation and retention of what should be waste product; and what more is gout?

There are two elements—one a faulty metabolism; another, the organs of excretion do not functionate properly. As far as we have evidence, the latter seems to be the element which determines an attack of gout.

Faulty metabolism might, and no doubt does, cause the formation of incomplete oxidation products, and these excite disorders of a mild type in many, very many persons; but it is only when the organs of elimination have reached and passed the limit of their function that weak parts give way, and an explosive attack of gout results.

There is no reason why any member of the same group of substances might not play the irritant role; xanthin or urous oxides, uric acid or uric oxides; in excess they are both irritants. Pathological chemistry certainly gives but meagre account of the origin of both substances.

In about 75 per cent. of cases of true phagedenic pericementitis, dentists give an unfavorable prognosis, and despite all local measures of therapeutics results justify such an opinion.

This fits Ebstein's theory of gout, the process essentially necrotic. In any disease a prognosis is favorable to the extent to which cause may be removed and effects remedied. Both these objects are difficult or impossible of attainment thus far in the dental disease.

As for the question of therapeutics. A condition in which there is altered secretion, necrosis of certain connective tissues, with a consequent undue mobility of the teeth, the presence of necrotic material, and more or less of foreign bodies; added to these, the continuance of a predisposing cause which is also acting as an excitant. The indications are, of course, the re-

removal of all the causes; a cure can not be effected while any of them persists. All dead and foreign materials are to be removed. All bacteria to be destroyed, and their further action made difficult or harmless. Faults of occlusion are to be remedied; loose teeth so fixed by splints that rest of the loose organs is assured. Local vascular disturbance is to be controlled. This is as far as local measures can be carried, and the daily experience of dentists demonstrates it to be insufficient.

General treatment involves the correction of the secretion of glands of the parts about the teeth. This evidently can only be accomplished by a removal of the causes which give rise to the formation of incomplete waste products.

The gastric and intestinal catarrh must be corrected; as the gastric disturbance is of the fermentative type, a lessening of the amount of carbohydrates in the dietary is quite as important as modifying the type of the nitrogenous ingesta.

Many of the cases give evidence of the condition known as portal engorgement. Whether affection of this organ is the primary cause of the faulty metabolism, is a question of the utmost importance. The changes in fibrous structures at large, such as in the tissue beneath the bronchial and pulmonary epithelium, in the connective tissue of the kidney, etc., are not within the province of our special therapeutics. Certainly the general indication is the elimination of the retained, irritating waste product. How else does colchicum act? Many symptoms are relieved by producing an increased alkalinity of the fluids of the body. In some situations concretions are removed through the solvent action of lithium salts, but it is out of the question to hope for such a result with dental deposits. The tartrate of potassium and sodium is one of the agents used for the double purpose of producing alkalinity of the circulating fluids, and as an eliminant through the *prima via*. This fact has suggested to Dr. Edward C. Kirk the advantages of replacing one of the bases of this tartrate by lithium; a lithium Rochelle salt is the result. The virtues possessed by this compound over the usual lithium salts and the officinal Rochelle salts is evident. While it performs the office of the tartrate in bringing about an increased alkalinity of the blood, there is added the uric acid solvent, lithium. It has a mildly laxative effect. Where it has been tried there has ensued a speedy amelioration of the annoying symptoms of lithæmia, due to clogged excretion.

Dr. Bartholow calls attention to the value of manganese salts in the treatment of the gouty condition. This aids first in a correction of the gastric disorder, and secondly, as in the case of permanganate of potassium, increases the oxidizing



function. Iron should, therefore, be doubly useful in the anæmia of the gouty diathesis. In this connection, is it not possible that certain obscure maladies, relieved through the inhalation of oxygen, may be cases of obscure gout, masked lithæmia?

#### DISCUSSION.

E. C. Kirk, D. D. S.: As medical men and as dentists we are familiar with this question of deposits on the teeth and of the loss of teeth by such deposits, but I think that the general public and probably medical men are inclined to view them all as simple tartar. Dentists recognize a broad distinction to be made between two classes of deposits—those on the crown and those on the root, or in connection with the pericemental membrane of the root. Those on the crown have on analysis been found to consist of calcium phosphate, with a little calcium carbonate and some organic matter. The removal of this form of deposit usually removes the irritation to the gum membrane.

On the other hand, deposits on the tooth root have been shown recently to possibly take place without any break of the attachment of the gum margin. The deposit seems to take place in the texture of the pericementum of the root. Such deposits are, of course, irritating, and bring about an inflammatory condition running a chronic course, and ultimately loss of the tooth takes place. The association of this condition with the gouty condition or that condition known as the uric acid diathesis has long been observed, but not until recently has a close connection been made out. Dr. C. M. Pierce, of this city, had analyzed by Prof. Congdon, of the Drexel Institute, some deposits from the roots of teeth, carefully selected. It was found that they contained uric acid, urates of sodium, potassium, and calcium. This discovery seemed to furnish the connecting link between this disorder and ligamentous inflammation in other parts of the body associated with gout. On the announcement of these results, I myself made numerous analyses of deposits taken from the roots of teeth in gouty persons and those in which the lithæmic condition was not so evident. In nearly all, the presence of uric acid was demonstrated. I am not sure that it was not present in all, for those in which I failed to find it were among the first cases studied, and the result may have been modified by imperfect methods of testing.

There is another point and one which it seems to me has not been sufficiently emphasized, viz.: that where this suggestion is acted upon, and the therapeutic methods adapted to gout are instituted, marked success in the cure of this local disorder

is obtained. It has long been the Gordian knot of dentistry to prevent the recurrence of this disorder, which we know as pyorrhœa alveolaris. Under these circumstances I have been gratified to have heard this paper. I believe that the dentist has reached a point where his partial training is insufficient to enable him to cope with this disorder. We have pointed out the possible relationship, and if it can be demonstrated that this particular form of dental disease is pathogonomonic of gout, as I believe it can, it forms a most important diagnostic sign of which physicians should avail themselves.

With regard to the recognition of the oral conditions in relation to the general systemic condition, I should like to call attention to a point raised by hearing the first paper of the evening. We must admit that the mouth is the port of entry for nearly all the pathogenic organisms. It seems to me evident that the whole course of the symptoms recorded by the essayist, their order of occurrence, and the marked tendency to relapses in influenza, show that at its inception the disease is in the mouth. The characteristic furred tongue, the aphthous ulceration of the mucous membrane and the infection of the tonsils would all point to that, the infection of the gastrointestinal tract following as a sequel to the oral infection. It has been my habit to advise proper sterilization of the mouth with appropriate antiseptics for the purpose of preventing the recurrence of influenza. Perhaps the best antiseptic is the peroxide of hydrogen solution. The continued use of this agent has, I think, prevented the recurrence of the disorder in many cases. I have reason to believe that it did so in my own case. I had suffered through two epidemics with frequent relapses of influenza, and these ceased after rigid care in sterilizing the mouth with hydrogen peroxide.

Dr. E. T. Darby, D. D. S.: The essayist has alluded to two conditions which are present in the mouth, both of which have baffled dental practitioners for many years, namely, erosion and phagedenic pericementitis. Of the latter Dr. Kirk has spoken at length. In regard to erosion of the teeth we have from time immemorial been baffled in ascertaining the true cause. The essayist pointed out some of the conditions present, namely, wasting of the enamel tissue, wasting of the dentinal tissue, and finally exposure of the pulp and loss of the tooth. We have not been satisfied with the theories which have been advanced, such as acid saliva, or the use of acids in the form of fruit and drinks, but we have looked for the cause in almost everything that we could think of, until finally we began to study the theory of gout, and the consensus of opinion of late has been that in the majority of instances where we

find erosion, we also find the gouty diathesis. As has been stated, in the female we frequently find it associated with deposits in the smaller joints. In other cases we find gout present in many forms, but almost invariably where we find erosion we find the gouty diathesis. Some have gone so far as to assert that by controlling the gouty tendency they have arrested the disease. This is one of those conditions with which the dentist can not battle alone. It is one of those conditions in which the medical man can do much to modify, if not to prevent.

I presume that most medical practitioners are familiar with this condition of the teeth to a greater or less extent. You have doubtless noticed that wasting of the labial surface, its loss of polish, then the deep grooves that have followed upon the labial and buccal surfaces. These have been attributed to the use of the tooth-brush and powder. Then you may have noted its progress until there are very deep grooves extending well into the body of the tooth. This is the condition which we recognize as erosion.

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EXHIBITION OF A CASE OF AKROMEGALY, WITH REMARKS ON  
TREATMENT BY DESICCATED THYROID GLAND.

By SOLOMON SOLIS-COHEN, M. D.,

Professor of Clinical Medicine and Therapeutics in the Philadelphia Polyclinic, etc.

This case is brought before the society in order to exhibit some structural changes not found, or at least not recorded, in every case of akromegaly, and to call attention to the apparently good results of treatment with desiccated thyroid gland.

As full details of the case will be published in the *International Clinics* (in my report of a lecture delivered some time ago to my Polyclinic class), I will be brief in the present instance.

The patient, who is some fifty-two or fifty-three years of age, applied to the Philadelphia Polyclinic about eighteen months ago for relief from an excruciating headache, which had for many months been so intense at times as to prevent his lying down, pressure on the scalp increasing the pain. Attention was at once attracted to the peculiarities of facial structures presented, and further examination demonstrated the characteristic curvature of the back and enlargement of the hands and feet. Photographs of the patient taken twenty years ago and six years ago, respectively, bear out his statement that his features have materially altered within the last four years, although the later photograph shows the beginning of the change.

He has had to enlarge his hat-band and his shoes twice within three years. The shoes are a little longer but much



broader than formerly. The hands are broadened rather than lengthened; the fingers not exactly "sausage-shaped," but thick and clumsy. Distortion of the joints is to be attributed to his occupation, and probably antedates the development of the akromegalic conditions. Part of the coarseness of the skin of the hands may likewise be due to occupation. His hands to-day, however, are smaller than when he first came under treatment, as shown by our tracing and measurements, and also by his statement that a pair of gloves bought "some years" ago, and too small for him last year, can now be worn.

The enlargement and projection of the superciliary ridges, the lateral projection of the malar bones, the broadening and deepening of the chin, give the face the characteristic lengthened elliptical outline. The great enlargement of the nose; the thickening and projection of the lips; the heavy folds, deep furrows, and somewhat greasy texture of the skin, especially of the forehead; the stiffening and projection of the auricular cartilages, complete the picture. The lower jaw does not, however, project beyond the upper jaw. The teeth are bad. The tongue is thickened and deeply fissured. The voice is deep and has a monotonous quality, the latter only partly attributable to his "boilermaker's deafness." The laryngeal and tracheal cartilages are almost if not completely ossified. The thyroid gland can not be demonstrated. The forward thrust of head and neck from curvature of the cervico-dorsal spine throws the clavicles well out from the windpipe, leaving a great hollow just above the sternum. The clavicles are enlarged, the scapulæ are enlarged, the ribs are broadened and apparently in contact, and the costal cartilages seem to be ossified. In consequence, although the narrowing of the chest—an apparent lateral compression—and the percussion phenomena show absence of emphysema, it will be observed that his breathing is scarcely at all thoracic. There is an almost inappreciable rise and fall of the clavicles, showing slight vertical motion of the thorax as a whole, and on great inspiratory and expiratory exertion an expansion of one-half to one centimetre can be determined at the nipple line. Breathing is almost exclusively abdominal. This shows, as did my previous case, and some cases of Dr. Dercum's and others, that the disease involves the bones of the thorax as well as those of the extremities.

Our patient is becoming feeble; his muscles are wasting, though as yet electric examination shows only quantitative change.

He has vasomotor phenomena—flushing, occasional vertigo, and polyuria. The urine has been deficient in solids, but



has not contained sugar or albumen. We have not, indeed, demonstrated anything abnormal in it. This I attribute, however, to defective methods of examination. I have no doubt that careful chemical analyses will show in the urine the results of altered metabolism. Since treatment with thyroid-powder was instituted the quantity of urinary water has decreased and the urea-content has risen. Ordinarily the thyroid preparation increases both water and solids. Superficially the diminution of polyuria by a diuretic would seem to be an illustration of the so-called "homœopathic law." A moment's reflection, however, shows the action to be simply a correction of disordered metabolism, through which the production of toxins giving rise to polyuria is diminished. Another result of the administration of the thyroid-powder has been to completely relieve the distressing headache.

At one time, after a long absence from the clinic, he returned complaining of violent sciatic pain. It failed to yield to ordinary measures, but disappeared after recourse to thyroid medication. Five grains of the preparation of desiccated sheep's thyroid exhibited by me to the society last year was given in capsule every morning.

Upon the somnolence, however, no effect has been obtained. The patient can still go to sleep upon the slightest provocation—indeed, without any. He falls asleep while waiting his turn at the dispensary, and frequently missed appointments through sleeping in his chair over the time set. He says that he can keep awake, however, while at work; but as he can no longer do the hard work to which he has been accustomed, he has not for some time had steady employment.

Dr. Jackson examined his eyes, and found no lesion of the fundus and no error in the visual field. This goes to confirm the view that hemiopia and other visual errors are merely secondary phenomena, due to pituitary enlargement, and that the latter is not necessarily a feature of the pathologic complexus. I am, indeed, inclined to believe that early treatment with thyroid preparations will entirely prevent overgrowth of the pituitary body, embryologic analogy seeming to indicate that it is an attempt at compensatory hypertrophy, ill-directed and baneful only by reason of the altered position of the structure.

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## Editorial Articles.

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### SEWERAGE FOR NEW ORLEANS.

For a long, long time some sanguine persons dreamed of a system of underground sewerage for New Orleans; others, bolder than the rest, actually dared to believe that it was a possibility. Now the sneers of the skeptics are ended; the objections of all-wise persons who thought that open gutters were good enough for us are silenced, and the hearts of the well-wishers of New Orleans are gladdened by the prospect of an early completion of a comprehensive system of sewers that will take away the reproach under which this city has so long suffered. Last month a very simple "ceremonial" was performed by Dr. Jos. Holt, namely, the digging of the first spadeful of earth for the new system of sewers for this city. A full report of the occurrence is given elsewhere in this number of the JOURNAL.

It is impossible to overestimate the benefits that will accrue from the sewers in the way of improvement in the health of the people. The experience of many cities in which careful records have been kept shows a striking falling off in mortality with the adoption of proper sewerage. With the experience of other cities before us, it seems strange that we should

have lost so much time in inaugurating that which would make people healthier and life more comfortable. Large bodies move slowly, however, and our enervating climate retards activity. It required a great deal of time to educate a large community out of old-fashioned ways which have become so deeply engrafted by custom upon its daily life as almost to form a part of its being; and even when it is shown that something better offers itself, it may be difficult to arouse people from their apathy. Fortunately for New Orleans, all obstacles have been overcome, and at no distant day our people will be enjoying the luxury of having their filth swept away at once instead of accumulating in privy vaults on the premises, not far from the kitchens. And when it is all done the people will wonder how they could have gotten along without it for so many years, and will shudder at the thought of the venerable piles of filth that form so prominent a feature of nearly every household in New Orleans.

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#### THE MARYLAND MEDICAL JOURNAL.

Our esteemed contemporary of the metropolis of Maryland makes the following announcement:

The transformation which has been wrought in the character and appearance of the *Journal* since its last issue, as evidenced in the present number, may be regarded as the expressed intention of the management to advance the publication to the front rank of medical journalism. Emanating as it does from one of the most important medical centres of the Western continent, and at the same time enjoying the distinction of being the only weekly of its class in the South, the *Journal* has an important function to perform. In full recognition of these facts it enters upon a new regime with well equipped editorial and business departments, and in possession of other necessary facilities for the attainment of its aims. The entire property of the Journal Publishing Company has been transferred to the ownership of the Health Magazine Company, a corporation embracing among its co-operators representative citizens in the professional and business circles of Baltimore and Washington. All that energy, devotion and careful management can secure toward the advancement of the *Journal's* interests will be brought into requisition. It is due the original projectors and former proprietors to state in this

connection that the labors bestowed in establishing the publication and in maintaining it throughout the vicissitudes common to such enterprises make feasible the plans and purposes of the present management. Under these hopeful and inspiring conditions the *Maryland Medical Journal* enters upon its thirty-first volume, being the seventeenth year of publication.

The *Maryland Medical Journal* is one of the most welcome visitors to the editorial sanctum. When it attained its fiftieth year it changed from a monthly to a semi-monthly, and now it has made another step forward and will henceforth pay its friends weekly visits.

The NEW ORLEANS MEDICAL AND SURGICAL JOURNAL will attain its fiftieth year next month, and it is our intention to signalize the event by following the good example set by our Baltimore neighbor and make the JOURNAL a semi-monthly, with the hope of making it a weekly as soon as circumstances justify such a move.

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The *Times-Democrat*, an influential newspaper of this city, has attacked the position assumed by the JOURNAL on the Medical Practice Bill. While we admire the brilliant rhetoric of the chivalrous editor of the *Times-Democrat*, we must, even at the risk of being esteemed stiff-necked and unrepentant, confess that we are unconvinced of the error of ways, and remain of the same mind as expressed in our former editorial.

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## Abstracts, Extracts and Annotations.

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### SURGERY.

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#### THROMBOSIS OF A VARIX OF THE SAPHENOUS VEIN, SIMULATING IRREDUCIBLE FEMORAL HERNIA.

By GEORGE RYERSON FOWLER, M. D., Surgeon to the Methodist Episcopal Hospital and to St. Mary's Hospital, Brooklyn, N. Y.

On January 14, 1893, I was requested by Dr. J. G. Atkinson, of this city, to visit in consultation Mrs. C., aged 28. The following history was obtained: For eight years past she has



noticed a tumor at the upper and anterior aspect of the thigh, which would grow larger as she stood upon her feet and diminish in size as she assumed the recumbent position. She frequently "put it back," as she expressed it, and as long as she lay down it remained reduced; but upon rising it resumed its former size. Extensive varices in both lower extremities were visible.

About a week prior to my visit she had an attack which simulated an attack of intermittent fever; she had suffered from malarial troubles several years previously. The rigor which occurred at the time above mentioned was followed by fever; after a day or two she had, as she supposed, fully recovered from the attack. At this time she noticed nothing particularly wrong in the tumor, but after an interval of a day the first symptoms returned, this time the chill and fever being accompanied by some local distress and tenderness about the former. She then took to her bed, and found that the tumor did not, as upon previous occasions, recede, but, on the contrary, seemed to grow steadily larger and more painful to the touch. Her bowels were somewhat constipated at first, but a fair movement was obtained by the use of a cathartic upon the morning of the day preceding my visit.

EXAMINATION.—Inspection reveals a tumor reaching from Poupart's ligament down the middle of Scarpa's space for a distance of fully four inches, and in an obliquely transverse direction, following somewhat the line of Poupart's ligament, and reaching from the inner edge of the sartorius muscle to the outer edge of the adductor longus. In other words, it stretched across the entire width of the base of Scarpa's triangle. The growth felt solid to the touch and was excessively tender upon being manipulated. No impulse could be detected and the percussion note was dull. No fluctuation could be detected. The patient's general condition was good. No vomiting had occurred, but nausea had been complained of. The pulse was 110 and the temperature 103.8 deg. She said she had not been able to expel gas since morning; no tympanites was present. The femoral artery could be felt above the upper limit of the middle of the tumor, and evidently passed, in its normal direction, beneath the latter.

I ventured the opinion that the tumor was not a hernia, this being based: 1st, upon the absence of impulse; 2d, the shape of the tumor; 3d, the fact that Poupart's ligament could be traced its entire length, instead of being partially overlapped by the tumor, as frequently occurs in femoral hernia. While the history of the case prior to the last week was such as to suggest the existence of either a hernia, or, as suggested by the

varices of the limb, a varix of the saphenous vein, yet the absence of reducibility at the time of the examination would seem to negative this. The exquisite tenderness and rapid increase in size, taken in connection with the pain and elevation of temperature, suggested an inflammatory origin.

It was deemed expedient to clear the matter up by an exploratory operation, and the patient was sent to the Methodist Episcopal Hospital for that purpose.

On the following day, the patient having been properly prepared for operation under ether, the tumor was exposed by a curvilinear incision skirting its outer and interior border. The resulting flap of skin was turned back, and the superficial fascia found to be intimately adherent to the anterior surface of the mass. This, together with the latter, was isolated from the lower and posterior attachments and lifted from the fascia lata. It was then found to be a large varix of the saphenous vein. Several branches as large as a lead pencil led into the mass; these were ligated in turn and the varix finally isolated well up into the saphenous opening, where the trunk of the vein was ligated and the varix removed, together with some adherent superficial fascia,

The varix was found to be the site of a large thrombus, which had given rise to the solid consistency of the tumor and the fact that the latter suddenly failed to reduce itself, as heretofore, when the patient assumed the horizontal position. Inflammatory changes were present, evidently from some infection occurring either from some micro-organisms in the blood itself or from an invasion of the clot by these agents from a subcutaneous or subfascial inflammatory focus.

The wound was completely closed, no drainage being employed. The patient rallied well from the operation. The temperature gradually fell from 103.8 deg., reaching the normal on the third day. Absolutely no medication was employed save a dose of sulphate of magnesia on the day following the operation.

The specimen removed showed an unusually large varix. The most dilated portion was the size of an English walnut, the vein itself, in the entire length of the part removed, also showing considerable enlargement. The tumor is entirely obliterated by the presence of a thrombus.

REMARKS.—This case belongs to the class in which thrombus occurs from dilatation and venous stasis, the so-called dilatation thrombosis. The convoluted condition of the vein, as shown by the specimen, produces a marked retardation in the force of the current of blood, and an over-accumulation of carbonic dioxide occurs. This results in a distur-

bance or destruction of white blood-corpuscles, and the fibrin ferment, upon which coagulation of the blood depends, is set free. Under these circumstances the thrombus is at first of the valvular variety, and is increased by fresh deposits until the entire tumor of the vein or varix is obliterated.

The prognosis in these cases of dilatation thrombosis relates principally to the dangers which arise from the loosening of portions of the clot and transportation to other parts of portions of the fibrinous mass by the circulation. These dangers are increased by the possibilities of septic conditions occurring in the clot and the entrance of bacteria into the blood. This is particularly apt to occur where collateral branches are present at the point where the clot terminates. The conditions present at the root of the saphenous vein, where large collateral branches exist, favor the occurrence of the accident at this point. In the present case, although no metastatic abscesses developed, it is believed that the occurrence of the rigor and fever were due to infection having its origin in septic conditions of the clot, and that minute portions of the latter, loaded with septic material, found entrance into the general circulation.

The differential diagnosis of femoral hernia from varix of the saphenous vein as a rule is not difficult. Attention to but a single point, as a rule, is necessary. This point relates to the fact that when the varix is diminished or reduced by pressure, and the patient assumes the upright position, the finger being held against the crural ring in such a manner that a femoral hernia, if such existed, could not escape, the tumor reappears from filling of the varix. In the present instance this test could not be applied because of the presence of the thrombus. In fact it is fortunate that the exquisitely tender condition of the parts and the complaints of the patient upon manipulation prevented the attempt to reduce the swelling by taxis, else larger portions of the thrombus might have been forced into the circulation, with resulting embolism in the branches of the pulmonary artery if not arrested en route.

In view of the existent doubt as to the character of the tumor and the evident presence of septic fever, which, in all probability, had its origin in the mass, it is believed that the exploratory operation was fully justified. In the light of the developments arising as the result of the operation there can scarcely be two opinions that the treatment adopted was the best suited to the condition as found.—*Brooklyn Medical Journal*.



## MEDICINE.

## ON THE ETIOLOGY AND PROPHYLAXIS OF LEPROSY.

By DR. JULIUS GOLDSCHMIDT.

My experience, extending over a number of years in the Island of Madeira, favors the theory of direct conveyance of leprosy from man to man, although I have been able to establish such transmission in but a single case, and despite the fact that I have never been able to inoculate the disease upon either man or animal. The Funchal Leprosy Hospital has for the past ten years afforded asylum to a dog that lives with the inmates, that has repeatedly licked off lepers' bandages, partly consuming them, and that yet exhibits no symptoms of the malady whatever. True, the dog is regarded by the director as well as by the inmates as leprous, but specific modifications are to be found nowhere in the skin—simply ulcers produced by vermin and assuredly harboring none of the bacilli of leprosy. Conveyance of the infection through mosquitoes is not admissible, because, first, the blood of the leprous is, as I have repeatedly assured myself, free from bacilli, and because, further, mosquitoes have been known on the Island of Madeira for only a few decades, being absent from many localities where the greatest leprous infection prevails. With just as much reason we might regard house-flies, of which there are such enormous numbers, or another nuisance which infests the island—the flea—as propagators of leprosy. Finally, we must exclude vaccination, which has been alleged to be a means of transmitting the infection. Of the last twelve cases received into the Madeira Leprosy Hospital, seven were unvaccinated. The lower classes of people evade vaccination, though it is legally compulsory, being actuated by ignorance or prejudice.

From the foregoing it may be inferred that infection is difficult of effectuation, with due reference to the accumulation of the bacilli within the cells, and their probable death as soon as they pass out therefrom. Herein, too, we have an explanation for the comparative rarity of leprosy. Even at the time of its greatest prevalence, during the medieval ages, it was by no means so baneful as is tuberculosis at the present time.

Singular in character as are the etiological factors which confront us, much more that is incomprehensible presents itself when we take into account the gradual disappearance of leprosy from Europe. Geographically, leprosy is to-day almost unknown in the vast tracts north of the fortieth parallel of lati-



tude, being restricted to isolated provinces. The leprosy hospitals, formerly so numerous on the continent and counted by the thousands, have dwindled to eight, the total number of inmates comprising but a few hundred. A retrogression in the dissemination of leprosy occurred concurrently with the Renaissance. With the revival of a higher culture, with its gradual invasion of the north from the south, a simultaneous retreat of the pestilence was observed. Italy was the first to expel it, and the same was accomplished by the northern populations in the order of their entrance upon a higher civilization. Nevertheless, larger or smaller foci of infection continued in many regions characterized by the greatest disparity of climate and soil and among varying nationalities—thus, in Norway and Spain, Iceland and Northern Italy. The interior of the continent gradually came to enjoy such an immunity that we may regard leprosy in Europe as an insular or littoral disease. The common characteristic of the invaded regions is their geographic isolation; they are either islands or tracts enclosed between sea and mountain, with a meagre and destitute population exposed to all the evils of insufficient and improper nourishment, intermarriage, and neglect of bodily and mental culture. I was surprised, during the course of a journey through Norway, to observe, especially on the northwest coast, the same conditions, absolutely incompatible with the health of the population, as prevail on the Island of Madeira, which is so different climatically from Scandinavia. In Madeira, at all events, the mild and uniform climate, the pure atmosphere free from dust, conduce to the amelioration of the wretched social conditions, whereas in Scandinavia the excessively long and severe winter, involving poorer nourishment and less fresh air, must naturally promote the dissemination of the pestilence. The percentage of leprosy has hitherto been greater in Norway than on Madeira, and will be reduced only when the proper regulations executed during the last decades shall have asserted their full effect, whereas on the Portuguese island nothing is done by the authorities with a view to exterminating the disease. Similar conditions are presented by the valleys of San Remo, by the leper districts of Spain (especially Northern Spain), Portugal and Greece. Russia's population, though living for centuries in a state of serfdom, amid vicious hygienic conditions, enjoys immunity, on the whole, excepting isolated portions of the eastern sea provinces, the lower Volga region, and the Caucasus; in Siberia there seem to be none save sporadic cases. On the other hand, all these districts are characterized by the same poor facilities for communication and by the same exclusion from the benefits of a higher civilization; for not the cultivated Russians, but rather the lowest, menial

classes—the Esthuanians, Tartars, and other natives—are chiefly visited by the malady. In all these cases I leave out of consideration the use of fish food as a conducing or etiological factor, and dwell only on the fact of nutriment being insufficient in quantity and quality.

To the correspondence of the general conditions which favor the continuance of endemics, we must add another fact—that in comparison with the country, the cities preserve a great immunity in all infected districts. Of 224 cases received during the past sixty years in the Funchal Leprosy Hospital, but 18 came from the city and only a single case from the central portion. The number of those, diseased yet living at home, is much smaller among the urban than the rural population. Here we observe a material difference in the behavior of tuberculosis and leprosy. Social misery—wretched apartments, deficient nourishment, lack of space—can alone render the country-dwellers more susceptible than the inhabitants of cities to the latter contagion.

Bearing constantly in mind the transmission of the disease from man to man, and, on the other hand, the foregoing conditions conducing to such transmission, we come much nearer to a satisfactory answer to the question: “How may we guard against and exterminate the pestilence, with greatest ease and security?”

That which the progress of civilization has accomplished throughout the greater part of Europe can everywhere be achieved by appropriate regulations, and with greater certainty of results at the present time than before. To all humanity it is of the utmost importance that we demonstrate that we can master a localized disease not too powerfully virulent, and that what is possible on a small scale will in the future also be included within the domain of the possible with respect to the more distributed infections—such, for example, as tuberculosis.

If we pass to a contemplation of leprosy, as distributed over the entire surface of the earth, it will soon become the conviction that this pestilence is not to be combated in accordance with a uniform plan applied without modification to all countries and zones. In my judgment, if success is to be assured, the afflicted groups of population must be divided and treated in accordance with a definite principle derived from the natural course and disappearance of the disease. With this view, the nationalities or races may be divided as follows:

Those which, despite the repeated importation of lepers, have always repelled the disease.

Those which have been infected during historic times and have offered a favorable soil.

Those previously infected, but now free or almost free from leprosy.

Those always infected, and remaining so up to the present time.

To the first category belong the United States of North America, and Canada. Beyond the fortieth parallel of latitude, as in Europe, traces of leprosy are scarcely to be discovered; in those localities where its presence has been shown to be the result of introduction by numerous leprous Norwegians—in Minnesota, Wisconsin, and Dakota—it has not been perpetuated down to even the second generation of these immigrants. While all colored races exhibit a very pronounced disposition to contract skin diseases, the negroes and Indians of the Northern States of the Union have proved very “refractory;” in the Southern States, however, the colored population has been visited by a small but distinct endemic (Louisiana, Southern California, Texas). In the North, the great mortality of the redskins from syphilis, tuberculosis, and alcoholism, probably affords the reason for their almost complete immunity from leprosy. Australia has also preserved its almost complete indemnity, despite the presence of numerous coolies; here also the colored race forms the greatest contingent, and here, likewise, the continent successfully repels the disease, whereas the entire Island-Archipelago and even the large insular domain of New Zealand are very much afflicted.

Just as Madeira was infected by its first colonists more than 400 years ago, the same is true of a whole series of other islands and continental districts in ancient and modern times. The Portuguese island forms an exception only in so far as it was unpopulated when discovered, and only a few decades later was thickly sown with lepers in pretty much the manner prevailing in continental Portugal, whence the first lepers undoubtedly migrated. In all the other portions of the newly discovered continents and islands the contagion required more time to gain a footing, probably because the soil proved favorable only when the original sanitary conditions of the natives were disturbed. The Indians of Mexico and Peru, who rejoiced in an orderly civilization without wealth or poverty at the time of the Conquistadores, became afflicted with the disease after being plunged into a social misery more bitter than slavery. The free Indians of the American steppes were attacked after renouncing their natural conditions of life, especially in the subtropic and tropic zones. The Kanakas of New Caledonia, the Maoris of New Zealand, the Hottentots of the Cape, the natives of Madagascar, now for the first time in their history present their numerous lepers, for until this century



leprosy has never progressed amongst them. Before the year 1830 leprosy was unknown on the Sandwich Islands, discovered by Cook in 1778; to-day the disease finds in the native population a capital soil for its dissemination, without becoming very formidable to the interspersed white residents. Only such native races as are permitted to enjoy a continuance of their natural modes of life, whatever their habitats, enjoy an almost complete immunity—*e. g.*, the Zulus of South Africa, the aborigines of Australia, and the dense masses of Central African population. Various tribes of Zulus, however, residing partly on the Ungeni river and partly nearer to the city of Pitermaritzburg, who were strangers to leprosy until the year 1850, are now largely infected. *Per contra*, in support of the theory that the disturbance of their wonted conditions of existence renders possible the dissemination of the disease among native races, we may cite the Indians of Brazil who, infected with leprosy, returned to the wilds of the Upper Amazon, and were there again discovered after many years, strong in numbers and free from the disease.

Europe belongs to the third category. In contradistinction to all other known chronic or acute infectious diseases, it is true of leprosy that the denser the population the smaller is the percentage of the leprous. The malady has long been banished from the large cities, though diseased subjects often come thither for treatment, and though social destitution is often greater in the cities than in the country. To be sure, Europe also presents the spectacle of countries with diminishing population and augmenting destitution, which nevertheless have eliminated the disease. Ireland, despite its almost chronic famine, its impoverishment, the resulting evils, and, finally, the established importation of leprosy, has for more than a century enjoyed almost complete immunity from this pestilence.

At all events, the Emerald Isle far surpasses in civilization some other European States. Moreover, it should not be forgotten that when leprosy disappeared from the island, its civilization, or at least the welfare or prosperity of the entire population, was far greater than at the present time. In other portions of Europe a number of small endemics have arisen anew during the course of this century. Thus in the year 1850, the Spanish village of Parcente in the province of Alicante was infected. The disease spread with tolerable rapidity, but not beyond the boundaries of the community, and at the beginning of this decade was yielding ground. In like manner a small focus for the malady arose about thirty years ago on the St. George arm of the mouth of the Danube—the



village of Chedrille, inhabited by about 500 persons. The wealthier Greek population was ravaged far less than the poor Russians. In our own time, new endemics of leprosy are being constantly "discovered." Whether or not the "maladie de Morvan" is leprosy has not yet been determined. The cases recently reported from the Herzegovina district may have been introduced from Turkey, or may have long existed in the former place, diagnosis being recently made on the basis of more careful observation.

The best known endemic was the Norwegian, and equally familiar was its speedy disappearance. Norway and the Russian provinces on the Baltic Sea, where about 400 cases have been counted, are the only portions of Europe which can exhibit pronounced endemics. But while the disease will soon be unknown on the Scandinavian peninsula, thanks to the adopted measures for prevention, it seems to be making headway rather than losing ground on the shores of the Baltic Sea.

Most of the large tracts of permanently infected territory lie outside the scope of statistical investigation. Thus, it seems that the widely disseminated leprosy of the Chinese remains almost wholly undetermined in extent, apart from a few details bearing on the conditions in some of the coast provinces. The extent and intensity of the disease in the Celestial Empire can alone be inferred from the meagre fact that the coolies who have borne the pestilence wheresoever they have gone come from all the provinces of this enormous complex of countries. At all events, it will be absurd to even conjecture a diminution in the leprosy of China; the disease finds too mighty an ally in the stagnating civilization of this country and in the neglect of every hygienic measure. In contrast with China, leprosy in Japan has ever been less destructive, and indeed seems to have receded during more recent years. Frequently enough the pestilence may be encountered among the Malaysians of Farther India and the Southern Archipelago. On the Philippine Islands the disease is well known in the coast districts, but almost unknown in the interior, where the natives live in their primitive condition and have always known how to defend themselves against the Spanish. In Java the disease has become stationary, claiming few victims among the white population; the latter, to be sure, are separated from the natives by an immense social chasm. Whether or not the Chinese immigration has provoked a recrudescence of the malady, I could not ascertain.

The most important, because the most widespread, is the epidemic of Hindostan, as it has always prevailed, undergoing in its general character no modification whatever. One leper

is encountered among every thousand inhabitants of the peninsula—and this statement probably falls short of the actual truth. India also exemplifies the observation that in the country and in secluded districts, whether in the mountains or on the coast, the pestilence is widespread and more stubborn than elsewhere. Thus the Bengalese districts, bordering on inhospitable Nepaul, harbor the greatest number of lepers—as many as forty-one per 10,000 inhabitants. The number of diseased is likewise very great in the half-independent empire of Nizam, where the ratio of lepers equals twelve per 10,000. In the independent or sovereign States the efforts of the Indian Government are much less effective than in the territory which comes under its most immediate jurisdiction. As elsewhere, so also in Hindostan, does the disease predominate among the lowest classes of society. The higher castes, particularly the Brahmins, are said to suffer from it in but rare instances. Among the destitute, primitive inhabitants of India and the races derived from them—the coolies and the Mahrattas—there is one leper to every 400 individuals; among the generally affluent and well nourished Parsees about one to every 2000.

The rapid journey round the earth teaches us that not climatic or telluric conditions are the causes of persistence or disappearance of leprous epidemics, but rather, by far, social conditions—an advance or retrogression or stagnation in civilization. This experience gives ground for the hope that the contest with the pestilence will be crowned with ultimate success. It may, of course, be objected that leprosy has disappeared in the course of ages because it has lost its virulence. But this would not seem to be true; for all the descriptions of medieval leprosy accord with the prevailing type; moreover, in vast expanses of territory leprosy is as widely distributed as ever in the past.

This behavior of the disease furnishes us with the measures to which we must resort for its successful suppression.

For the immune countries—those enjoying a natural or acquired immunity, such as the United States of North America, Canada, Europe, and Australia—it is sufficient to subject existing cases to rigid scrutiny, confining them, in the event of destitution and insufficient care, within the appropriate hospitals (leprosy hospitals); likewise furnishing them the means for cleanly living and better (that is, more abundant) nourishment. There should also be no dearth of instruction for the sick and the members of their families. The intermarriage of the leprous should be forbidden, where possible. Under no circumstances should marriage be permitted to

lepers whose internal organs are already invaded by the disease, for the farther the symptoms have progressed, the more certain the prospect that the children will be afflicted with the same infection. Less is to be feared from the marriage of a leper with a healthy woman, or *vice versa*, particularly if the necessary measures of cleanliness and caution are observed. No vaccine derived from the children of lepers should be used, even if they show no signs of the disease themselves; and the wife of a leper, whether herself diseased or not, should not nurse either her own or strangers' children. Further, provision must be made for the most accurate statistics; in Europe, for example, we do not know even approximately the number of lepers. In many States, Spain for example, the figures vary between scarcely 100 and 1500; in Russia, between 300 and several thousand; in Madeira, between seventy and several hundred. Therefore, the proper persons—ministers, teachers, physicians—must be commissioned, within districts readily supervised, to visit the leprous and their families several times each year, satisfying themselves as to the proper execution of the hygienic regulations, and submitting an accurate report annually or semi-annually. If to these measures, which correspond approximately to the Norwegian *régime*, we add for the benefit of those countries which yet enjoy immigration a stern denial of entry to all diseased subjects, and surveillance of all suspected individuals, a sufficient system of prevention is thus afforded, and the complete disappearance of the endemic may be hoped for in the not far distant future. Australia and the North American Union, as well as the South American republics, may well justify an inexorable exclusion of the Chinese from the privileges of immigration by pleading their demonstrated danger to the general welfare. The coolie will never accept modern civilization, but will cling to his traditional prejudices and anti-hygienic necessities. While the leprous Norwegian in America corrects all his habits of life, and cures, if not himself, at least his posterity, who become even more amenable to the rules of an enlightened hygiene, the coolie establishes a little China wherever he abides, and furnishes it with all his vices and diseases for all time to come. At all events, colored lepers—negroes or Indians—south of the fortieth parallel of latitude in the United States, should be collected in leprosy hospitals.

Of course, we must yet reckon with the possibility of even an acute revival of the pestilence. Hence in places where leprosy has made such an advance during the past few years that the number of cases exhibits a disproportionate growth, rigid exclusion, without direct or indirect communi-



cation with the outer world, must supersede mere supervision.

The same is true of the prophylactic measures adopted in countries offering a congenial soil to the imported disease. Inspection, however zealous, is not enough, for all the races belonging to this last category are of inferior civilization and resisting power, and would not prove sufficiently susceptible to discipline to render successful such a system. The most rigid exclusion can here alone avail. Despite the fact that on the Sandwich Islands all known cases are transferred to the Sanitarium Island of Molokai, new cases are constantly springing up on this group of islands. Naturally enough; for a disease characterized by so slow an inception, by such trivial initial symptoms, which may first, though not often, manifest themselves on concealed portions of the body, may remain unrecognized in contact with healthy individuals for years, and will, unchecked, readily disseminate its pestilential seed. In such cases, the measures of prevention must be expanded to their utmost limits. All the members of the family—yes, even all the local residents—must be annually examined by an expert and their health determined. All cases must be confined, with or without family companionship, according to the choice of the sufferers. This choice once made all further relations must be severed. Furthermore, the number of leprosy hospitals should be as large as possible, to prevent an excessive crowding of the leprous and to facilitate supervision, as also to guard against further dissemination of the malady. It goes without saying that such institutions are to enforce the most scrupulous cleanliness, proper disinfection, and abundant nourishment.

Less stringent regulations are required by those nationalities among which leprosy has been perpetuated to the present day at the same or approximately the same degree of virulence. These are the nations with stagnating culture. Were it possible to break in upon their inertia and to introduce a modern, civilized mode of life, the endemics would also disappear slowly, as in Europe long ago. Russia's civilizing exertions in the Caucasus and in Central Asia will prove valuable in this respect; Japan seems to be justified in asserting the reduction of its endemic, dating from the time when, if it did not alter the manners of its people, it at least introduced a new medical science and hygiene. Japan has had its measures against leprosy since the days of antiquity, but they all proceeded from the view that the disease was disseminated only by heredity. Hence, it is demanded by a law prevailing since time immemorial, and at the present time as well, that in closing



the marriage compact with a person recognized to be healthy, supplementary proof must be adduced that no leprosy has existed in the family of the contracting party back to a given point in its history. The furnishing of this certificate is imperatively demanded of the husband.

The contest with leprosy will encounter its greatest difficulties on the Hindostan Peninsula; yet the most energetic steps should there be taken, inasmuch as India, next to China, exports the greatest number of cases to countries enjoying immunity. In Hindostan all lepers and their families, if not confined within leprosy hospitals, should yet be restricted to their villages and, above all, denied opportunity to participate with the great body of the people in the frequent pilgrimages and festivals. Now that domestic medicine is yielding more and more to European science, it is becoming easier to replace the prevailing superstitions with correct views, and to survey, attend, and properly nourish the sick, besides guarding their environment from infection. I have previously called attention to the fact that besides cleanliness, an abundant animal dietary, with a certain quantity of alcoholic beverage, affords the best protection against contracting the disease. Whether and how these measures can be executed among the Buddhistic Hindoos must be decided by the Indian authorities.

In concluding these fragmentary suggestions, I appeal to the International Medical Congress, to be held this year, to ask of those who have made the disease and its habitats a study, some general project for the suppression of leprosy, and definite measures to be adopted by the governments of all the afflicted countries. The greatest benefit would, however, result if Great Britain, which harbors the greatest number of lepers in various colonies, were to assume the initiative, and were to summon an International Congress for the Suppression of Leprosy. It would be an undertaking worthy of our age to carry the contest against widespread diseases to a successful end, and to show that this pestilence, which even now bears the germ of its own destruction, may be everywhere exterminated. But unanimous effort can alone insure success.—*Med. Age.*

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#### HOW SHALL OUR LEPERS BE CARED FOR?

By BENJAMIN LEE, A. M., M. D., Ph. D., Secretary of the State Board of Health of Pennsylvania.

The State Board of Health of Pennsylvania and the Board of Health of the city of Philadelphia have had some unpleasant experiences with lepers, which have led both of these bodies to appeal to the general government to establish a colony or

colonies where these unfortunates might be provided with the comforts of home and medical care and nursing, and, at the same time, might cease to be a horrid menace to the health of those with whom they were thrown in close contract. In order to arrive at a somewhat definite opinion as to, first, the need for the adoption of such a measure, and secondly, the general drift of opinion on the part of those who had given the subject thoughtful attention, in December, 1891, I addressed circular letters of inquiry to the secretaries of all State and provincial boards of health in the United States and Canada, and to prominent dermatologists.

Replies to these inquiries have been received in twenty-three instances.

They indicate, briefly, that cases of the disease have been recognized and made the subject of official report in seventeen States and provinces.

In ten States or provinces cases exist at the present time under the observation of the authorities—namely, New Brunswick, 22 cases; British Columbia, 7 cases; New York, 6 cases; Pennsylvania, 4 cases; Illinois, 2 cases; Iowa, 1 case; Minnesota, 7 cases; Wisconsin, 4 cases; Louisiana, 40 cases; California, 24 cases, making in all 117 cases.

At the well-known lazaretto at Tracadie, in the province of New Brunswick, provision is made for the comfort, care and treatment of these unhappy beings in a manner in harmony with the dictates of humanity and the requirements of modern science, while at the same time they cease to jeopardize the health and happiness of others. The United States has only gone so far as to make the faction quarantinable at the sea coast, and to order those found suffering from it on arriving vessels to be at once returned to the ports from which they came. In the different States of the Union the widest diversity prevails both in theory and practice. The only place in which segregation is practised, and at the same time humane provision is made for the shelter, maintenance, medical attendance and nursing care of lepers, is the city of Philadelphia. The manner in which the county authorities who have the care of the other case in Pennsylvania discharge that duty is by no means in keeping with the dictates of humanity or the laws of sanitation.

While their numbers are few, no little rural community, very few States even, feel justified in going to the expense of establishing a lazar house or colony. Is it wise to wait until State after State finds itself compelled, by their increasing numbers, to take this step; or is it not rather the duty of the central government to gather them all into one properly supervised community, where they can have the companionship of

their fellows, the comforts of a thoroughly furnished home, and the advantages of the best medical and surgical skill?

Such is the distinctly expressed opinion of nineteen of the twenty-one eminent dermatologists who favored me with replies to my circular of inquiry.

In conclusion, I desire to say that in determining the importance of this question and the necessity for governmental interference, the numerical method is entirely misleading. One case of leprosy outweighs a hundred of any other disease. If there were but ten lepers in the land instead of more than ten times ten it would be equally the duty of Congress to initiate measures to prevent, if possible, a single addition to the horribly afflicted company.

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## State News and Medical Items.

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Dr. Will H. Woods has returned from Europe, where he has been studying in the hospitals on his specialty, the eye, and has located at Canal and Bourbon.

Dr. Roger de Montluzin, formerly of Baton Rouge, has located at 185 Howard avenue, New Orleans.

Dr. Willis Westmoreland has been elected president of the Georgia Association.

There are sixteen States in which a medical diploma of itself is no license to practise and in which an extra and independent State examination is demanded before the applicant can be qualified. These States are Alabama, Arkansas, Florida, Maryland, Minnesota, Mississippi, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, South Dakota, Texas, Utah, Virginia, Washington, and portions of Indian Territory,

Died in Centreville, La., April 13, Dr. F. E. Robertson, an old practitioner.

Dr. H. Snow, a prominent physician of Alabama, dropped dead recently at Anniston.

Dr. S. R. Olliphant, of this city, was married recently to Miss Evelyn R. Kennedy. They immediately sailed for Central America. The JOURNAL joins with their many friends in congratulations for future happiness.

Dr. C. J. Edwards, of Abbeville, La., was elected to the State Senate recently, in place of Don Caffrey.

Dr. H. E. Walét, of New Iberia, was in this city to attend the organization of the Charity Hospital Alumni.

The Ouachita Parish Medical Association was last month organized at Monroe, and Dr. Thos. Y. Aby was elected president and Dr. Graham Surghnor secretary. Dr. A. W. Jones, of Jones, La., vice president of the State Medical Association, perfected the organization. A large number of physicians have joined the association, and it is expected all will join. Meetings will be held monthly.

Dr. J. A. C. Hancock, late of Pearlinton, Miss., has settled in Waveland.

J. S. Cann, Dean of the Sewanee Medical College, has resigned the chair of the "Practice of Medicine and General Pathology," which he has for many years held in the medical department of the University of Tennessee, Nashville Medical College.

Died, at Baldwin, La., Tuesday, April 2, Dr. W. S. Borah, a native of Illinois, but for many years a resident of Baldwin, aged 45 years.

Dr. James McGoldrick, a recent graduate of Tulane, has located at Coushatta, La.

Dr. J. T. Scott, Jr., has located in New Orleans.

Dr. L. G. Sterling has located at Bayou Sara.

Dr. M. L. Hoffpanir has located at Rayne.

Shreveport Charity Hospital, Dr. T. E. Schumpert, surgeon in charge, makes the following report for one month:

There were from the State at large 97 patients; city and parish, 74; remaining from previous month, 72; received during the month, 99; total to be accounted for, 171. The following were discharged: recovered 62; improved, 24; not improved, 7; died, 3. Remaining under treatment, 78, number marines, 5; number days, 68; white, 82; black, 89.

The official report of the Board of Health of the city of Baton Rouge shows the following death rate in a population of 12,000 (whites 5000, and colored 7000). Total deaths for the month of March: White, 4, colored 16; total, 20. For



the same month last year: White 10, colored 8; total 18. Annual death rate per 1000 of population for the year 1893, 19.25.

Dr. P. S. Postel, of Plaquemine, passed through the city as a delegate to the reunion of Confederate Veterans at Birmingham.

#### MARRIED.

HENDRICKS—GAMBLIN.—At the residence of the bride's parents, Mr. and Mrs. John S. Gamblin, on Wednesday, February 21, 1894, Dr. J. G. Hendricks, of Elysian Fields, Texas, and Miss Daisy Gamblin, of Caddo parish, La.

Nearly one-fifth of the human race die from consumption or some other form of pulmonary disease.

In Germany there are at present 37,800 blind persons.

Dr. R. S. Toombs, of Greenville, Miss., was at the meeting of the State Board recently held at Jackson.

The Texas State Medical Convention has elected the following officers for the ensuing year: President, J. W. McLaughlin, of Austin; first vice president, Dr. A. York, of Decatur; second vice president, Dr. C. W. Blaylock, of McGregor; secretary, Dr. West, of Galveston; treasurer, Dr. Laurenden, of Dallas. The convention will meet in Dallas next year.

The eighteenth annual meeting of the American Dermatological Association will be held in the Arlington Hotel, Washington, D. C., May 29, 30, 31, and June 1, 1894. The officers for 1894 are: President, R. B. Morison, M. D., of Baltimore; vice president, G. T. Jackson, M. D., of New York; secretary and treasurer, C. W. Allen, M. D., of New York.

ONLY ONE TO LOSE.—Young Medical Practitioner—"I can truthfully say that I never lost but one patient." Dr. Longyeers (grimly)—"What have you been doing for a living since he died?"

Dr. G. M. Magruder, one of the assistant surgeons of the Marine Hospital of New Orleans, has been ordered to Naples during the summer quarantine against cholera.

Dr. C. L. Horton has returned from Europe and opened an office in New Orleans for the practice of his specialty, rectal urgery.

Dr. Thomas S. Jones, of Baton Rouge, was in the city last month.

The Alabama State Medical Association elected the following officers: Dr. R. M. Fletcher, of Madison county, president; Dr. C. C. Jones, of East Lake, vice president; Drs. Ed. H. Sholl, of Birmingham, and John B. Gaston, of Montgomery, members of the Board of Censors for five years; Dr. R. N. Cunningham, Pratt City, annual orator; Dr. R. S. Hill, of Montgomery, alternate orator; Dr. Jerome Cochrane, State health officer, was re-elected for a term of five years. The association adopted the recommendations of the Board of Censors with reference to the proposed change in the State quarantine law, and instructed their attorney to put such recommendations in the shape of a bill to be presented to the next Legislature. The bill will contain two propositions; the first, that the State quarantine be generally improved and helped by large annual appropriations; the second, that the medical management of the quarantine at Mobile be taken out of the hands of the mixed directory and placed in the care of a city Board of Health, consisting of five good physicians. The recommendations of the quarantine conference of New Orleans, that a special quarantine officer be placed at each tropical port to report condition of all vessels sailing for this country, was adopted. The association recommended that Congress establish a national department of health, and that the secretary of said department call a national conference at Washington once a year. It was decided not to instruct delegates to the National Medical Association as to proposed changes in the Code of Ethics.

Dr. W. C. Gorgas passed through the city recently from Fort Reno to Pensacola, where he will be located at the army post.

Dr. John Pleasant Berry and Miss Stella McLaurin, eldest daughter of Senator McLaurin, were married at Brandon, Miss., recently.

Dr. B. W. Smith, of New Iberia, was in the city last month.

The Cass County Medical Association was held at Atlanta, Texas, recently, and the following papers were read and dis-

cussed: "Bowel trouble with teething children during the summer months," by Dr. Y. A. Mathews, the president; "Our characteristic climatic fevers during summer and fall, typho-malarial, or continued, so-called," by Dr. Dan McDuff.

JOSH BILLINGS ON DOCTORS.—Doktors are not all quaks; you hav got wrong noshuns about this. Doktors, lawyers and ministers hav a hard row to ho; they hav to deal with kredulity, knavery and fears of the people—three of the most difficult traits in human natur tew handle. If i was a doktor and understood my bizzness, i should doktor my pashunts, and let the disease take care of itself. More folks are cured this way than enny other.—*Weekly Medical Review*.

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#### CHARITY HOSPITAL ALUMNI ASSOCIATION.

At 7:30 o'clock, April 2, 1894, the following doctors met at the Medical College (Tulane) for the purpose of organizing an Alumni Association of resident students of the Charity Hospital: Drs. S. F. Schmittle, Leak, W. E. Parker, W. S. Bickham, H. J. Scherck, Chas. Chassaingnac, Deslattes, W. T. Woolf, H. C. Cocram, A. J. Bloch, W. G. Armstrong, E. D. Martin, S. M. Fortier, Luther Sexton, E. A. Robin, R. P. M. Ames, O. L. Pothier, Jos. Holt, Lebœuf, John Laurans, H. R. Bohn, R. M. Walmsley, F. W. Parham, Lowe, and the ex-resident students of class of 1894, Drs. R. T. Morris, J. B. Elliott, Jr., J. M. Lovell, W. W. Butterworth, O. J. Breaux, E. Regard, F. E. Baldrige, J. F. Oechsner, M. Souchon.

Several letters were read from those unable to attend, commending the movement. Dr. Chassaingnac was elected temporary chairman and Dr. Martin secretary. After discussion of the scientific and social aspects of such an organized society, a motion was adopted that a committee of five be appointed to draw up a constitution and by-laws. The following compose the committee: Drs. Bickham, Parker, Sexton, Oechsner and Baldrige. The meeting then adjourned, subject to call of committee.—*Times-Democrat*.

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#### CHARITY HOSPITAL.

The Board of Administrators of the Charity Hospital met April 2, 1894, and transacted considerable business. The following members of the board were present: W. G. Vin-

cent, J. T. Gibbons, A. R. Brousseau, Dr. E. T. Shepard, J. A. Shakspeare, G. W. Sentell and Dr. E. S. Lewis.

After the usual preliminaries the report of the treasurer was read, including the report of the finance committee, as follows:

Payment of warrants in March.....	\$15,000 00
From ordinary sources.....	2,878 20
Legacy of Thomy Lafon.....	13,000 00
Total .....	\$30,878 20
Balance on hand March 31, 1894.....	9,320 56
Total.....	\$40,198 76
Disbursements—	
Transfer to special fund.....	\$13,000 00
Ordinary expenses.....	9,228 59
	\$22,228 59
Cash on hand March 31.....	17,970 17
Total.....	\$40,198 76
Additional on hand, special fund.....	6,300,00

Col. Vincent stated to the board that the meeting which was to have been called for March 26 was not held, as the required information was not obtained from abroad. Also that the coal contract had been placed with B. D. Wood. Mr. Vincent also stated that \$13,000 had been received from the Thomy Lafon estate, and that \$16,000 would shortly be paid.

Dr. A. B. Miles, the house surgeon, made the following reports:

The following named gentlemen having served satisfactorily as externes in the outdoor clinics, are, under the resolution, entitled to certificates of their service: Messrs. E. K. Sims, T. Thigpen, A. J. K. Genella, H. Huesner, J. M. Herbert, O. L. Norsworthy, L. D. Porter, A. B. Gaudet, J. W. Durel, P. J. Gelpi, W. J. M. Couret, M. L. Hoffpanir, J. A. Devron, A. J. Gould, B. Barios, E. B. Pries.

In compliance with an established rule, I have the honor to certify that the following named gentlemen, having complied with the requirements, are entitled to hospital diplomas and ambulance certificates: Messrs. J. F. Oechsner, W. W. Butterworth, J. M. Lovell, J. B. Elliott, Marion Souchon, O. J. Breaux, Robert Norris, F. E. Baldridge, Emile Regard.

In the last two annual reports we have urged the necessity of a new surgical building in connection with the hospital. We beg that you will give this matter your special consideration; and in connection therewith, we respectfully submit provisions, plans and specifications for the construction of the building.

The new building should be devoted exclusively to sur-



gical purposes. It should be located on the present site of the old amphitheatre, because of the accessibility of this locality from all parts of the buildings and from the ambulance entrance into the grounds. This location, moreover, is of easy access to patients admitted at night as during the day.

The following memoranda are submitted for your consideration: We are in conference with experts in such work, and hope in due time to elaborate these general plans and gather the most authentic information in regard to approved materials and economy in construction.

After consultation with Mr. John Ponder, chief of engineers, who has received estimates of cost of material and construction from dealers and builders, we feel authorized in saying that the new surgical building, as contemplated in the plans submitted, can be finished and furnished at an approximate cost of \$30,000. This estimate includes the cost of a mosaic floor in the operating rooms and a wainscoting of Tennessee marble around the walls of first floor. If cheaper material be employed the estimated cost can be reduced.

If the necessity of this surgical building, as indicated in our annual reports, be recognized, we respectfully recommend its construction as early as practicable in the wisdom of the board.

According to the plans as submitted by Dr. Miles the proposed addition to the hospital as represented in the new amphitheatre are substantially as follows:

The dimensions of the new building are to be 66x62 feet; main walls to be constructed of hard brick stuccoed with hydraulic cement and made to conform in architectural design with the newer hospital buildings. All of the interior surfaces are to be smooth and plain. The elevation of the proposed amphitheatre will be 34 feet from floor to ceiling and that of the special operating room 21 feet. The roof to be flat and provided with skylight over each operating room. The seating capacity of the amphitheatre to be 400 persons, and the dimensions of the room 42x60 feet, seats in same to be made of hard oak. Amphitheatre operating room to be 17x20 feet. There is to be no stationary furniture but the lavatories. The operating rooms are to be en suite and connecting with each other. Dimensions of each 17x20 feet. The rooms will be provided with wide sliding doors having smooth panels and ground glass. The halls form entrances from operating rooms, the central hall to be 10x25 feet in extent and the side halls 4x25 feet, each closed in by glass doors. These halls can be used as waiting rooms for patients or as resting places for ambulance cases. The preparatory rooms for patients are to be provided

with bath and lavatory and other conveniences for aseptic preparations. Minor operations can be performed here.

The surgeons' preparatory rooms are also to be fitted with lavatories. There will be storage rooms for surgeons' dressings and clothes, and the sterilizing room for liquid and vapor sterilizing adjoining and communicating. Also a room for instruments and surgical apparatus in ordinary use, fitted with glass and metal cases; waiting rooms for friends of patients.

The building is to be safely wired with electric lighting apparatus and fitted with lead pipes, tin lined, and will be heated by steam. Water used will be Mississippi river water filtered and held in galvanized iron tanks. There is to be also a hot water tank in basement of building.

The following physicians were appointed on the visiting staff by the board: Drs. T. J. Wolfe, G. B. Lawrason, P. E. Archinard, J. J. Archinard, O. L. Pothier, Hy. Bayon, J. M. Soniat, H. E. Menage, S. M. Fortier, G. S. Bel, P. Archinard, E. D. Fenner, J. J. Ayo, J. M. Elliot, B. A. Ledbetter-H. S. Cocram, R. A. Tudery, C. H. Achwalminle, C. M. Brady, R. W. Walmsley, T. J. Chalaron, J. H. Bemiss, T. S. Kennedy, G. F. Patton, A. J. Bloch, R. de Montluzin, W. H. Knolle, F. Larue, R. Ledoux.

Oculists—E. W. Jones, E. A. Robin.

Dermatologists—Joachim, Dyer, H. E. Menage.

Rhinologists and Aurists—E. W. Jones, O. Joachim.

Dentists—A. O. Friedrichs, L. D. Archinard.

Surgeons—J. F. Schmittle, J. Laurins, H. R. Bohm, H. J. Schenck, W. E. Parker, S. P. Delaup, Y. R. LeMonnier, R. Matas, F. W. Parham, C. Chassaignac, J. F. de Grange, F. H. Brickell, W. S. Brickell, L. Sexton.

The house surgeon reported the resignation of Dr. Pothier, assistant pathologist, and appointed Dr. B. A. Pope to succeed him. The appointment was ratified by the board.

There being no further business the board adjourned.—*Times-Democrat*.

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#### THE SEWERAGE SYSTEM.

Yesterday afternoon, at the corner of Orleans and Marais streets, Dr. Joseph Holt, president of the New Orleans Sewerage Company, turned the first spadeful of earth in the work of preparing a sewerage system of the city.

The ceremonies attending the initial breaking of the ground were of a simple but appropriate character and were witnessed by a large number of representative citizens.

The preliminary proceedings were opened by Mayor Fitzpatrick, who, addressing the vast assemblage, said that they were about to witness the inauguration of a long-felt want, an opportunity of which all citizens should feel proud. It was impossible, he said, at present to estimate the value of the sewerage system which had been conceived by the late city administration and adopted by the present city council. He remarked that the citizens should take pride in the selection of Dr. Holt to the presidency of the sewerage company, because his name and reputation were both well known to the scientific world. It was to Dr. Holt that the city was indebted for the present excellent quarantine system, and it was also by his efforts that the city had been preserved from the scourge that once almost depopulated it. In concluding the mayor complimented the directors of the sewerage company for having taken upon themselves such a herculean task. The mayor's remarks were received with applause.

Dr. Joseph Holt was the next speaker and he spoke as follows:

Your Honor Mr. Mayor and Gentlemen: An event so fraught with beneficence to the people of New Orleans, as this moment of actual breaking ground for the construction of the vast sewerage system, already planned and completed in every specification and detail, which is to purify and to help maintain in purity this city, such an event fully justifies all the honors we can possibly bestow upon this occasion and ourselves; emphasized in the cordial invitation to you, gentlemen, to grace the time and the cause by the distinguished presence of representative citizens of this great municipal commonwealth.

Look about you and you will note an almost disappointing lack of ostentatious display. Neither flags nor music, booming guns nor flowing wine are here, naught save these silent evidences in ponderous machinery and ready gangs of laborers with spade and pick, which declare of a mighty work ahead, and of a determined purpose to drive on in the lines which engineering genius has set before us; never to stop or pause until the weary old tune of complaint and despair is forgotten, and a joyful song with new words is in the heart and mouth of all; until our citizens, at home and abroad, like Californians, are known for their local patriotism, which some mistake for boasting: "We are a prosperous, progressive people, abreast of the times and close up to the music in the procession. Our river is the biggest, our bridge is the grandest, our city is the cleanest, our homes are the brightest and our girls are the loveliest. New Orleans against the world, and New Orleans forever!" Your honor and gentlemen, that is the tune for

Orleanians to vocalize and to teach their children how to sing, captivating the world and filling this city with health and comfort-seeking visitors, and our markets with capital for investment here. Then away with this whining and drawling, at home and abroad, of a doleful ditty about dirty streets and filthy gutters, filthy premises and a filthy city, shocking and driving away, with repulsive suggestion and disgusting fact, our best friends, while furnishing terms of derision, founded on truth, too, for our commercial and industrial rivals and adversaries.

As matters have stood these many years, the bad sanitary conditions, the unavoidable result of a total lack of scientific and comprehensive systems of sanitary provision in the disposal of sewage, in the disposal of garbage, and in efficient method of drainage, have compelled our people in very truth to bear injurious testimony against their own city, discrediting her claims and their own estate. Could civic patriotism be more sorely tried than to find itself halting between a humiliating admission and the telling of a flagrant lie, concerning facts glaringly revealed to the critical eye of an intelligent and unsparing world? Under the old order, now waning to a close, we were compelled ourselves to testify against ourselves, to the ruinous endamage of us all, for a house divided against itself can not stand.

The glorious sun of our prosperity began to rise, dispelling doubts and horrible fears with the weary night of suffering and despondency, when, in 1884, an end was made of the old quarantine, a ruinous bar to commerce, but a cobweb against pestilence. The old quarantine, hoary with outrageous precedents of barbarous practices and traditions of disastrous failure, had stood for decades, like unused gates upon the highway of pestilence, wide open, like gates of hateful Janus ever spread for war, while death and hideous destruction, leading pale and wall-eyed horror with gaunt misery in train, stalked impudently through. In 1884 and 1885 these worthless gates and mischievous were from their rusty hinges torn, and in their stead the "new system of maritime sanitation," in all the detail of its complexity, no missing link or part omitted, but in perfect working trim and thoroughly efficient, was invented, and then and there applied.

This was the true dawning which drove the stygian gloom from hence, and heralded the day star of our hope; for without this assurance vouchsafed by sanitary science against the incursions and deadly ravages of foreign pestilence, all hope was at an end; the aspirations for commercial greatness, the longing for industrial enterprise, the expectation of improve-



ment in local conditions were mere fantasies and speculative dreams. With this assurance, now by time and abundant test, made doubly sure, there is no richer field for municipal improvement, for commercial and industrial ventures of every kind than is offered in New Orleans. Until this assurance was made secure, capital and commerce, though lusty fellows of heroic boast and adventurous soul, were ready, like timorous hares expectant of howling pack, to take wise counsel of their heels and fly before the faintest scent of danger to windward.

We have boldly announced to the world the security of our position in the perfection of our defence. We have invited immigration, and capital, and industry to come and abide with us. These have responded in increasing acquiescence, and hold themselves ready, in the fitness of time, to pour in upon us in-gathering floods; but a responsibility still rests upon us, and there yet remains much for us to do. Not only do we owe it to ourselves and our children, but to the stranger within our gates, seeking rest and recreation; to the capitalist who comes for investment; to the manufacturer and the artisan we are under an obligation we can not honorably or prudently disallow, or, worst of all, shamelessly repudiate or deny, at least, without incurring merited and injurious odium. It is a solemn duty above all other duties, that we shall secure to these, as well, also, to our own families, every guaranty of protection of life, of health and of all that appertains to social well being, within the reasonable purview of the public care. If we owe this to strangers, who judge of us by these evidences of municipal enlightenment and Christian duty performed or neglected, how much more do we owe to our wives and children?

That we are mindful of this obligation and are becoming day by day more sensitive and more responsive to its demands, let us bring forward now some points of testimony to set in evidence of a progressive era, which is gradually but inevitably crowding out the old order of slipshod negligence and contented squalor. Let us for a moment look about, as I did after four years' absence, and see what has happened: The first amazing revelation of change from the good old times that strikes the eye is the silent departure of whole districts of the good, old-time mud streets; oftentimes, in rainy spells, changed to continuous lakes and always in such weather dangerous quagmires, in which innumerable vehicles and sometimes horses and mules seemed hopelessly sunk. These were familiar sights in streets, even in our most fashionable quarters, which now afford a passageway to the loaded cotton float, the coal cart,

the baker and the butcher, driving in a round canter, in July or January, rain or shine.

In so short a time has this much been done to streets, the good, old, wise folks told us could never be redeemed.

A few years ago we stumbled through these streets at night, in the uncertain and feeble rays of a yellow gas light (except in moonlight nights, when the gas was turned off); sometimes, in the late or very early hours, sheering to the middle of the street to steer clear of cowans and eaves-droppers and such like uncanny ilk, children of darkness. Now, we no longer mutter a silent prayer and commit our souls to heaven, nor keep our powder dry, but walk abroad at any hour of night as complacently as at noonday.

Light is the enemy of crime, and New Orleans is to-day one of the best, if not the very best, lighted city in the United States.

Our predecessors of old never made the slightest attempt to systematically and scientifically drain this city, but contented themselves with cutting an incomprehensible tangle of huge cesspools, called drainage canals, that seemed to begin nowhere in particular and end eventually in the lake, exactly where, under any conditions, they should never be allowed. To-day there is a comprehensive plan for a complete system of drainage, evolved from the minds of the ablest engineers, and backed by a large appropriation for a great part of the work. We may safely say that the days of stagnant gutters, of flooded streets and lake Julia are soon to be numbered with miseries past.

A few years ago, and only under the pressure of dire calamity threatened, there were periodic spells of a spasmodic cleaning up; house to house inspections, and a great array of carts suddenly mustered in, to do what should be done every day of the year, to remove garbage from premises. To-day there is a systematized method, thoroughly scientific in rationale, contemplating the earliest and most complete equipment for garbage disposal.

Even unprepared for the immediate handling and treatment of gigantic masses from Augean stables—for plants must germinate and grow, it matters not whether it be a cotton plant or a rice plant, a tobacco plant or a garbage plant, this company, as I am informed, has moved out of the inhabited city as many as 520 wagon loads of nauseous and reeking filth in one day, by far the best record ever made in cleaning up this city, to my knowledge.

With the early completion of their plans and faithful performance of their duty, what an amazing change from the

dirty premises, the box on the banquette, and the ubiquitous yellow dog as sanitary guardian and garbage plant in one. But of all the municipal improvements springing into existence under the vitalizing sunlight of our new prosperity, this vast outspreading tree, whose base will be planted where yon dark prison stands, whose trunk, in divided forks, will extend both north and south, and whose ramifying limbs and twigs will ultimately be coextensive with the streets and premises of this city (at first within our "ordinance limits"), this great sewerage system must take precedence of all the rest.

To usher in this mighty innovation for the public weal you are invited here to-day.

It is a truth of common note that the events in whose beginnings are enclosed the richest future in the affairs of man, and oftentimes his destiny, are they which, like the unpretentious bud, enfolds in microscopic smallness the leaf, the flower and fruitage of a glorious consummation.

If these beginnings of great things to come were heralded with clanging bells and resounding guns, the whole structure of human history would have to be rebuilt, for no event pregnant of mighty consequence in the history of a people, shaping development and following the curves and lines of religious, political and material destiny, but invariably it has begun in quiet, lowly ways, as we do this day, in delving the earth with humble spade.

It is meet that in the history of this mighty work, so freighted with beneficent consequence to this people, and to their generations unborn, that we should follow the fated precedent which decrees all normal growth to proceed through lines of evolution, preordained in the germinal conception of the creature. Through this day's toil and sweat we bring to pass and signalize the cherished dream of years, in the beginning of a vast work which shall from this moment hence proceed, and shall not cease until the outspreading branches of this great subterranean tree shall have entered every cottage and every palace, every hotel, factory, banking-house, store, shop, hospital, asylum, almshouse and prison, carrying from thence, silently but speedily, as the flight of an arrow, unseen and unobserved, every vile and putrefactive substance which sewage can convey.

This vast municipal body is but the indefinite extension of the body individual, and so of physiological functions and pathological derangements. How speedily would a person pine and perish in his own corruption but for the great sewers inwardly provided; the kidneys and intestinal tract carrying off as fast as formed the poisonous matters of burnt-out ash

from the natural combustion within living tissues. What a fearful monstrosity would a human creature be without such sewers. He could get along without the washing of his face, without clean clothes, electric lights, paved streets, or even a garbage plant; but the sewers he must have or die immediately.

Look around you now and consider the self-poisoning, the foul and contaminating excreta, having no organs of issuance, but pent up in this body politic. Consider this huge animal and heavy feeder; this anatomical compound of 260,000 actively-functioning members, casting out continually, each from itself, the waste and offensive products of destructive tissue change, or, as one of the doctors just now graduating would say, katabolism or retrograde metamorphosis.

What a gross monstrosity, scarce half made up, is this immense living creature, without those natural passageways for cleansing and keeping pure every tissue and fibre of its own composite organism; and precisely such a malformed beast is the city of New Orleans, without a sewerage system. No marvel that offensive odors and disgusting sights repel. No wonder that a high annual death rate, with all of its implied sickness and industrial loss, prevails.

The New Orleans Sewerage Company is a most learned and skilful surgeon, who does his work only in accordance with the most approved and scientific methods of aseptic and antiseptic surgery.

The masterful and eminent chirurgien has planned for his municipal patient a bold but not daring plan for relief from the aches and miseries, from the nausea and convulsive seizures which have so long racked and ranged within; and is about to begin—without anæsthesia—a brilliant operation in laparotomy. Not restoring but actually creating an entire urinary and intestinal tract, and establishing, pardon your honor, an artificial anus.

The highest attainments of modern surgery are eclipsed and pale to commonplace procedures beside the brilliant achievement and splendid results sure to follow, without chance of accident or fatal relapse, this operative measure, contrived by Surgeon George E. Earl, C. E., in counsel with Surgeons Rudolf Hering, C. E., George E. Waring, Jr., C. E., and M. B. Harrod, C. E. This is the corps of surgeons who will presently immortalize their names in this imperishable monument to sanitary engineering skill, to be embedded in the secret depths of this living and sentient municipal being.

And I, as the official head of the New Orleans Sewerage



Company, am tendered the conspicuous honor of handling the glittering knife, shaped for special use, as you will see, like a spade, with which the operation is to begin.

Hon. Mayor Fitzpatrick, gentlemen of the press, and fellow-citizens, our guests, in the name of the New Orleans Sewerage Company, I extend to you a grateful acknowledgment of the honor conferred in your attendance here to-day.

Like Cato of old, who, in season and out of season, continually proclaimed the destruction of Carthage for the salvation of Rome, so, for years, my refrain has been and shall be: "New Orleans, to be saved, must be sewered and drained."

Mr. George Dunbar at this stage presented Dr. Holt with an ornamental spade, the handle of which was decorated with ribbons of various colors. Attached to it was the following: "Presented to Dr. Joseph Holt, President of the Board of Directors, in Honor of the Inauguration of the Construction of the Sewerage System of the City of New Orleans." The recipient, in accepting the gift, said that no jeweled ornament could be received by him with greater appreciation than the humble instrument by which he would begin the capital operation of municipal laparotomy.

Ex-Mayor Shakspeare, addressing the audience, said that the system had been inaugurated by the late administration at a time when the people were greatly in doubt as to the outcome of the scheme. He looked into the matter and found that it was feasible and he believed that when completed it would be one of the most beneficial movements that could possibly be conceived.

The work of breaking ground was then commenced. From the corner of Marais to Villere, on Orleans street, was an elevated railroad, on which a number of cars were propelled by means of a rope. At the Villere end was an engine enclosed in a wooden structure. The trestle work is of solid steel and capable of being moved at any time, owing to the fact that, in addition to its having a track on top, it rests on rails by the aid of wheels. Dr. Holt, spade in hand, stood at the corner of Marais and Orleans streets, and at a signal by the mayor, he, with the skill of a navvy, plunged the weapon into the earth and commenced to load a car that had been placed near him. He, however, quickly tired of the work and transferred it to other hands. In a very short space of time Foreman Ryan had a few hundred laborers at work and as fast as one car would be filled it would be raised to the trestle and the contents thrown into a wagon in waiting.—*Picayune, April 19, 1894.*

## GRADUATION EXERCISES.

The graduation exercises of the medical department of Tulane University of Louisiana took place on April 18, 1894.

Without any delay the exercises were begun promptly at 7:30 o'clock, Dean Chaillé stepping first upon the stage, followed by Hon. Charles E. Fenner, president of the Board of Trustees; his excellency, Murphy J. Foster, governor of Louisiana; Rev. B. M. Palmer, D. D.; Rev. Beverly Warner, Prof. James H. Dillard, Col. Wm. Preston Johnston, Mr. Wm. O. Rogers, Mr. Jos. A. Hincks, and all the members of the faculties of the various departments of the university, and the visiting physicians and surgeons of the Charity Hospital.

The exercises were fittingly opened by a dedication of the lives and efforts of the graduates to the service of mankind, the Rev. Beverly Warner in eloquent words calling down the blessings of heaven upon those whose mission on earth would be to follow in the footsteps of the Great Physician and his Apostles.

Prof. Stanford E. Chaillé, dean of the faculty, presented the following annual report:

Mr. President—During the sixty years that have elapsed since the origin of our medical department, in 1834, there have been registered on its record of students 10,905 names, and 3141 students have been graduated, viz.: 2895 in medicine and 246 in pharmacy. My last annual report called attention to the exceptional labors and responsibilities, and, therefore, to the very unusual anxiety imposed on the faculty for the next session; that is, for the session now closing. In April, 1893, the faculty had, after its removal from the building occupied for forty-six years to a new building which then required much wearisome labor for completion and useful occupation. New and extensive laboratories demanded very onerous equipment; additional courses of study and additional teachers had to be provided; important regulations which had prevailed for forty-nine years were to be substituted by regulations, exacting from students proofs of preparatory education, attendance on not less than three annual sessions and these of greater length, and attendance on three additional laboratory courses; in fine, exacting so much more than heretofore of students that the number of these would very surely be diminished. And hence the faculty had to face that frequent experience of life which adds much to its bitterness—increased expenses with diminished receipts.

The exceptional labors and disadvantages anticipated have all been realized; but encountered with foresight and determi-

nation, they have been so overcome that our college is safe for the present, and more secure of the future than ever before. These gratifying results have been due to the good repute of our college derived from the past labors of its faculty, and to the able and zealous discharge of duty by those who now labor for the college, by professors, instructors and employés. Of these the greatest debt of gratitude is due to Prof. Souchon, the faculty's chosen agent to supervise the erection and equipment of the new building. His duties were so ably discharged that the dean was relieved from an overwhelming burden, and that our building, as long as it lasts, will bear witness to his admirable foresight and to his painstaking and inexhaustible care, not only as to many important details, but also to innumerable little things.

Gradually increasing during my incumbency of the deanship from 223 students in 1885, there were in 1893 420 students, the greatest number ever recorded. The friends of our college were warned that, for causes already alluded to, there would be a notable decrease in the number of our students at the present session. It was feared that this decrease might amount to 20, and possibly even 25 per cent. Since our last commencement there supervened another unfavorable cause, the so-called "hard times;" for such times have always diminished the number of our classes. Notwithstanding all of these unfavorable causes tending to reduce the number of our class, the total number of students attending the present session was 377, a larger number than we had in 1890, and only 10 per cent. less than attended the maximum session of 1893.

In 1888 the dean began publicly to advocate the very great benefits which accrued, not merely to the medical profession, but chiefly to the public from medical education, to teach the great needs of medical colleges, especially of our college, and to appeal to philanthropists to come to our aid; and this appeal was continued year after year. A serious impediment to success was, on the one hand, the common and natural belief that donations to a medical college would financially benefit professors chiefly and benefit the public little, if at all; and, on the other hand, the reluctance of philanthropists, anxious to promote the public good, to see their donations diverted into the pockets of professors. The dean declared that no such result was desired; that, in fact, all the professors of our college would cheerfully sacrifice part of their salaries in order to promote the prosperity of our college, and that if a donation was wisely conferred, professors would be forced to unite with any philanthropic donor in making pecuniary sacrifices for the college.

As is well known, a very generous and adequate donation was conferred in 1891, and was so expended that medical education would reap all its benefits; for, while very superior advantages were secured, yet the current expenses were very greatly increased without a corresponding increase of revenue, and these increased annual expenses had to be borne by the faculty. The result has been that, while sufficient money has been provided by the faculty to supply many invaluable additions to our curriculum of studies and to meet the greatly increased annual expenses, the salaries of professors have thereby been very seriously lessened, and the assurance of the dean that the donation would redound wholly to the benefit of medical education and of the public has been amply verified.

No reason is now apparent why as many students should not attend the next session as were present this session. However, there were present this session and will be at the next session of 1894-95 two sets of students. One set, whose number is very difficult to estimate, attended their first session in a medical college prior to September 1, 1893, and are still permitted to be graduated after attendance on only two annual sessions and are subjected to the same less onerous regulations which prevailed prior to 1893. A second set, who first began their medical college careers after September 1, 1893, are forced to attend not less than three annual sessions, to submit proofs of preliminary education, to take all laboratory courses and to be subject to all new regulations. For such reasons it is unusually difficult to estimate the probable number of our next class, and the future of this college, with the probable number of its students, can not be clearly foreseen until the session of 1895-96, when all students will be subjected to the same regulations, and when every graduate must have attended not less than three annual sessions in a reputable medical college and must have complied with all of our new and more exacting regulations. But, although our college is now in a stage of transition, undergoing important changes and somewhat uncertain as to the future number of its students, yet all the surrounding conditions justify the most sanguine anticipations.

A generous benefactor has given us a building which is unsurpassed in its adaptation to the needs of medical education, supplied with abundant light and ventilation, with ample lecture and recitation rooms, with museum and library, and, best of all, with large and well equipped laboratories of practice, anatomy and operative surgery, of microscopy and bacteriology, of chemistry and of pharmacy. Even the great fire which ravaged the building on the night of March 31, 1894, has been deemed a good omen, for it was limited to the upper



lecture room, or amphitheatre, and spared all those parts—laboratories, museum, library—which contain numerous valuable little things, very difficult to replace. If our guardian angel, St. Luke, whose statue, serene and unharmed, maintained its place high on our outer wall, had guided that fire it could not have been directed to the greater satisfaction of the faculty; so that the great fire did not cause an hour's loss in the curriculum of studies, and so that all damages will be fully repaired and every vestige of the conflagration have disappeared long before our next session will begin.

A board of wise and liberal administrators has given us extensive grounds, part of which the faculty hopes soon to utilize as a gymnasium for the health and recreation of our students, and all of which the faculty has so adorned with grass, hedges, trees and vines that in a few years, when all these have sufficiently grown, our building and its grounds will constitute one of the most beautiful ornaments possessed by New Orleans, and one of the most conspicuous gems in the crown of Tulane University.

To these great and exceptional advantages of our college must be added its greatest and its unequaled superiority in the use of our great Charity Hospital, with its close proximity to our college building, with its liberal regulations, due to the exceptionally wise laws of Louisiana, which favor to unusual extent the admission and instruction of our students; and with its 30,000 sick annually an unequaled and incomparable field for the study of the diseases of the great Southwest.

If, to all these superiorities, there be added our numerous corps of competent professors and instructors, zealous in the discharge of duty, it becomes impossible to contemplate the future of our college with other than very sanguine hope. After a very few sessions, the maximum number of students, heretofore attending annually, 420 in 1893, will no doubt be surpassed, and not many years should elapse before our building will be filled with the 600 students it can contain—a number less than the geographical position of New Orleans as a medical centre entitles it to; a number less than the exceptional superiorities of our college should attract.

Graduates of 1894, although this day severs the strong bond of teacher and pupil which has long united us, the members of your faculty hope that there will still be continued the affectionate interest and the friendship which time has fostered, and that you will still look to them for counsel and help.

To you, graduates, and to all students attending this session, the dean entertains a feeling of unusual gratitude. For while his duties during the present session have been more on-

erous and more harassing than during all of the eight sessions previously served by him, yet you students have, by your personal conduct, added nothing to the burden borne. Gladly do I testify that your deportment has been such that not one report has reached me of bad conduct within the college grounds on the part of any one of you. Though you number 377, though you enjoy the vigorous youth which tempts to self-indulgence, thoughtlessness and mischief; and though you belong to the maligned class of medical students, yet you have proved that medical students, very surely our medical students, when treated with justice and courtesy, are unsurpassed by any aggregation whatever of men in yielding to gentlemen the kind and thoughtful consideration due from gentlemen. To you, graduates of 1894, and to all students of this session, the dean, with a very grateful heart, presents his profound thanks, and in bidding you the official farewell of your faculty the earnest hope is entertained that you will maintain throughout your lives a loving interest in this college, which has given you professional birth; and that, in the genial words of a well-loved Thespian, you and all your families may live long and prosper.

Mr. President, you are respectfully requested now to confer degrees upon 111 students. The 100 whose names will first be called are entitled to the degree of Doctor of Medicine, and the eleven who will be last named are entitled to the degree of Master of Pharmacy.

Having finished the reading, the dean presented the classes to the president by calling the roll, each graduate rising to answer to his name.

#### GRADUATES IN MEDICINE.

Robert Henry Aldrich, Rollo Boleyn Allmon, William Bean Anderson, M. D., Felix Edgar Baldridge, Whitfield Brooks Bean, John Walter Bethea, William Royston Betts, Ph. G., Oscar J. Breaux, A. B., Robert Coates Brookes, Jesse B. Burditt, Charles R. Bush, William Walton Butterworth, Marcus Finley Carson, A. B., Arthur R. Choppin, Addie W. Clarkson, Frank Lane Connerly, James Wilson Cowart, Philip H. Cronth, Mallory Baskin Culpepper, John Barnwell Elliott, Jr., M. A., B. L., Geo. W. Emory, B. SC., Theodore Engelbach, Hyman McMackin Folkes, Louis Aristides Gaudin, A. B., John Robert Gillam, William Laughlin Grace, Cullen Price Graves, Henry Greff, Richard Watson Griffin, James Farrar Haley, Rowland J. Hall, Noble E. Hamilton, Jilson Payne Harrison, Jr., Karl Heusner, A. B., Manasseh L. Hoffpanir, Joseph Stafford Horsley, Jr., A. B., Thos. W. Huey,

Claiborne Steele Hyland, Hamilton Polk Jones, Reid V. Jones, John A. Kendrick, John W. Kenney, Basilide Lavigne, M. Ph., William Lamar Law, John Adams Lawless, P. Hoa LeBlanc, A. M., C. E., James Lenoir Lenoir, Jr., B. S., Otto Leach, A. M., Ph. D., Joseph Mansfield Lovell, B. A., Torrey George McCallum, John C. McGaughy, James McGouldrick, George C. McGowan, F. Vorsie McRee, Thomas C. Moody, James Reed Moore, M. B. S., Joseph F. Moore, Jr., Thomas Walton Moore, Robert Townes Morris, Geo. W. Murphy, Thomas Beauregard Odom, John Frederick Oechsen, Walter Edwin Paris, Henry Jackson Parsons, B. S., Frederick Carl Petersen, Clarence Pierson, B. S., Frank Ewing Piner, Sidney Dale Porter, James L. Powell, Abel James Price, B. S., Ernest August Rappanier, William K. Read, Emil Regard, A. B., Pierre Sauve Rhett, Robert Dickerson Sanders, Charles Frederick Sauter, Joseph Tilford Scott, Jr., Samuel Augustus Scott, M. D., Austin D. Searles, Richard Paul Seeliger, M. Ph., Isaac E. Siess, Gustave Adolphe Sigur, Aarons Pierre Sillan, Eaton Kittredge Sims, Hugh A. Smith, Neulan B. Smith, Risdon Wright Smith, Marion Souchon, Daniel M. Stewart, Louis Gray Stirling, Thomas Chilton Thorington, Fred Turney, M. Ph., W. Theo. Waas, Walter J. Wadlington, Richard A. Wall, A. B., Sidney Thomas Whitfield, A. B., David Leonidas Wilkinson, B. A., William E. York, Henry Martyn Young, Roy Odo Young, B. S.

#### GRADUATES IN PHARMACY.

James Ogilvie Adams, Wallace J. Babin, Joseph T. Baltar, James Francis Code, Emile T. Diez, Albert P. Dominique, Jr., Theodore Engelbach, Alvis B. Kennedy, Edward James Klee, Manuel R. Relimpio, John Lawson Warren.

Miss Lowenstein, who was in the proscenium box, received her certificate from the dean of the faculty,

Col. Wm. Preston Johnston, responding, said that he always attended the commencements of the medical department with much pleasure, and it was particularly so this year. He had been interested in the report of the dean, and was particularly glad that, though the standards had been raised, the attendance had been so remarkably good, and further than that, the year had passed without one blemish having been cast on the character of the nearly four hundred students from all parts of the country. The administration of the department had been wise in making the standard for admission comparatively low and for graduation very high, and he felt then the students who went away from this city after the course at the department would have acquired a fund of knowledge which would fit

them for a noble mission in life. Turning to the graduates, he extended congratulations and complimented them on the exemplary conduct which had characterized the entire class.

Dean Chaillé then presented Gov. Foster as the medium between himself and the class, who would present the diplomas conferring the degrees of doctor of medicine and master of pharmacy on the 111 graduates.

As each graduate's name was called to receive from the Governor of the State the diploma conferring the desired degree an ovation of applause from friends in the audience greeted him, and as was to be expected the honor men received a double share.

Dr. Clarence Pierson, on the part of the class, extended greeting to the audience, speaking for his fellow-students in the following salutatory:

"With hearts full of gratitude for the achievements of the past, and with burning hopes of a still more brilliant future, we point to-day with pride and satisfaction to the many evidences of substantial progress that surround us. The recent munificent gift of the Richardson memorial from the generous heart of a loving wife, from the generous hand of a gentle woman, in commemoration of a pure and illustrious character, with its spacious lecture halls, laboratories and modern paraphernalia, has lent fresh inspiration to the life of this institution and filled its halls with eager matriculates."

The dean called upon the following gentlemen to step to the front of the platform: Wm. R. Betts, Oscar J. Breaud, Wm. W. Butterworth, A. R. Choppin, A. W. Clarkson, J. B. Elliott, Jr., G. W. Emory, Theo. Engelbach, L. A. Gaudin, C. P. Graves, N. E. Hamilton, Karl Heusner, C. S. Hyland, H. P. Jones, B. Lavigne, P. H. LeBlanc, Otto Leach, J. M. Lovell, R. T. Morris, J. F. Oechsner, Emil Regard, Marion Souchon and Leonidas Wilkinson, and when they presented themselves announced that they had received an average of very good throughout their course, the best mark attainable. The theses had all been excellent, and three of them, written by C. S. Hyland, R. T. Minor and J. F. Oechsner, had been recommended as worthy of publication.

Dr. Palmer delivered an impressive benediction, bringing the exercises to a close.

Another fact worth remembering in connection with this commencement is that it was the first class to graduate which had had the privilege of using the Richardson Memorial Building during their course, and was more than a hundred strong.



## DEGREE AS PHARMACIST.

Miss Augusta Lowenstein, who received her certificate from the Tulane University Medical College as an efficient pharmacist, was born in St. Petersburg, Russia, in 1876. She graduated from the Upper Girls' High School in 1892, and entered Tulane University medical department the same year. As a student of the chemical and pharmaceutical laboratories, she attained the highest mark for proficiency. She was honored by all of the medical students alike, and was well liked. She received numerous congratulations, telegrams and floral offerings.

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## STATISTICS OF SYPHILIS FROM LIFE INSURANCE.

At a recent meeting of the Medical Society of the County of New York, Dr. O. H. Rogers spoke of the effect of syphilis on the duration of life, based on life insurance statistics (*Medical Record, May 28*). "Out of three or four hundred thousand lives insured which he had been enabled to study, there had been fourteen to fifteen hundred syphilitics who had been cured from four to five years. Out of the fourteen to fifteen hundred the mortality had been thirty-seven, which was rather high. The age at death of insured people for a considerable number was about forty-eight, whereas for these syphilitics it had been about forty-one. In other words, syphilitics had apparently lost about seven years of their life by the fact that they had syphilis, although they had been "cured" for five years, at the age of thirty the probable length of their lives being, instead of sixty-five, fifty-eight; in other words, the loss of one-fifth of their longevity. The man of fifty years had lost one-third of his longevity, the probability being that he would live only to sixty-four instead of to seventy-one. Roughly speaking, the syphilitic had probably lost from one-third to one-fourth of his longevity. Among the 17,000 deaths which he had studied among all classes of insured, he had found that one in 170 had died of paresis; whereas, among the syphilitic deaths, paresis was the cause in one out of 18. He had found nothing to show that syphilitics were more likely to be carried off by lung disease. He thought the mortality from syphilis was greatest in continental Europe, then in England, then in the colonies, lastly in the United States. This was, he supposed, to be accounted for either by the fact that syphilis was milder here, or else we knew better how to treat it.—*College and Clinical Record*.

## MORTUARY REPORT OF NEW ORLEANS.

FOR APRIL, 1894.

CAUSE.	White .....	Colored...	Male.....	Female...	Adults ....	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	4	2	3	3	5	1	6
“ Intermittent .....							
“ Remittent .....	2	1	2	1	2	1	3
“ Congestive.....		2	1	1	1	1	2
“ Typho .....	2	1	1	2	3		3
“ Typhoid or Enteric.....	4	2	2	4	6		6
“ Puerperal .....							
Influenza.....	1			1	1		1
Scarlatina .....							
Small Pox.....							
Diphtheria .....	2	1	1	2	1	2	3
Whooping Cough .....	2	2	1	3		4	4
Meningitis .....	5	2	4	3	1	6	7
Pneumonia.....	8	11	14	5	12	7	19
Bronchitis .....	15	7	8	14	6	16	22
Consumption.....	38	35	42	31	72	1	73
Cancer .....	11	3	8	6	13	1	14
Congestion of Brain.....	4	1	4	1	4	1	5
Bright's Disease (Nephritis) ....	14	14	17	11	26	2	28
Diarrhœa (Enteritis) .....	19	9	14	14	18	10	28
Cholera Infantum .....	7	8	9	6		15	15
Dysentery.....	3	3	5	1	6		6
Debility, General .....		4	1	3	4		4
“ Senile .....	14	11	10	15	25		25
“ Infantile .....	1	4	2	3		5	5
All other causes .....	141	77	117	101	144	74	218
TOTAL .....	297	200	266	231	350	147	497

Still-born Children—White, 26; colored, 18; total, 44.

Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 19.31; colored, 34.53; total, 23.48.

L. F. FINNEY, M. D.,  
Chief Sanitary Inspector.

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

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## Original Articles.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the first day of the month preceding that in which they are expected to appear. A complimentary edition of twenty-five reprints of his article will be furnished each contributor should he so desire. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### THE LOCATION OF ACNE AS AN INDICATION TO ITS TREATMENT.\*

ISADORE DYER, PH. B., M. D.,

Professor of Dermatology in the New Orleans Polyclinic; Lecturer and Clinical Instructor on Diseases of the Skin, Medical Dept. Tulane University; Dermatologist to the Charity Hospital, etc., New Orleans, La.

In recognized statistics of skin diseases, acne ranks next to eczema in frequency. In the combined statistics of Bulkley and the American Dermatological Association it occurs in about 13 per cent. of the cases reported. If the multitude of cases which never apply for treatment were included, acne would unquestionably be the most frequent of skin complaints.

The importance of the treatment of acne is so often under-estimated that too much can scarcely be said or written in the way of enlightenment. The treatment of acne has always been the bugbear of the general practitioner and the dermatologist alike. On this account, too often, the disease is relegated to the class of incurable or self-limited diseases, and the condition is neglected, or the patient, left to his or her own devices, seeks relief at the drug store, or at the hands of ignorant impostors and charlatans.

Acne is recognized as an inflammatory disease of the skin, in which the lesion presented is evidence of an inflammation in and around the sebaceous glands and the hair-follicles.

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\*Read before the Mississippi State Medical Association at Jackson, Miss., April 4, 1894.

The etiology of acne is capable of wide variation.

Simple indigestion to pronounced diathetic conditions, temperament and habit, all may contribute to the list of factors at work in the morbid process. Acne is apparently selective of blondes, the disease occurring more frequently in the fair than in the dark-skinned. Thick skin, however, and sluggish circulation, are predisposing elements.

Digestive disturbances, menstrual irregularities, chlorosis, lithemia, general debility, are some of the general causes of acne.

To youth is attributed the chief cause of acne. It is advanced that at puberty the functions are being established, the sexual instinct developed. The glands of the skin take on then additional exercise, and the fat glands especially are stimulated by the growth and development of the hair. Dr. Hyde well says that "one should be slow to regard a physiological crisis as a disease factor." (*Diseases of the Skin*, 1893, p. 376.) That youth predisposes to acne no one can deny; but in this the habits of youth are irregular, and the conditions which induce acne later in life are more frequent in the growing boy or girl.

Sexual influences are argued often. The evidence is not yet all in, and the burden of proof rests upon those who claim the association. *Matrimonium varos curat* has been aptly replaced in Hebra's name by the dictum *Tempus varos curat*.

Rigler states that acne seldom occurs in eunuchs, even at the time when puberty should have been established. (Quoted in Jamieson, *Diseases of the Skin*, 1892, p. 399.)

The influence of alcoholics in the production of acne is to be accepted with qualifications. That excesses of all kinds, whether of diet or drink, are capable of distressing the intestinal canal, and, by resulting indigestion, produce acne, must not be questioned. The tonic use of alcoholics is often of service, and to be commended rather than condemned in selected cases. Of the alcoholics, the malt liquors are most to be condemned. The more desirable are the clarets and sauternes. According to Kaposi, the etiology of rosacea is determined in many cases by the character of the redness of the nose. The nose of the wine drinker, he says, is bright red; that of the



beer drinker, cyanotic or violet; and in the spirit drinker the nose presents a smooth, supple, fatty and dark blue appearance.

Of the specific causes of acne, the artificial occupy a distinct place. In this class we must include the remedies used as counter-irritants, as croton oil, turpentine, mustard and the like. Accidental irritants would then be considered. Arsenic is one of the drugs, of this class, responsible often for the artificial eruption. It may be in the hat band or in the clothing, the stocking, or the underclothes, or in cosmetics.

Artificial acnes result, too, from the ingestion of certain drugs—notably, iodine and bromine salts. Occupation may in some cases determine the artificial factor. Tobacco workers, constantly in an atmosphere of tobacco dust, are frequently afflicted with an acne, the direct result of irritation.

Acne is about equally distributed between males and females. Statistics, however, suggest the fact that before the age of thirty, more females than males are affected, while after thirty, the male sex predominates. The etiology then is the strong element to be considered in the outline of treatment. Accepting the truth of the proposition that acne is a disease of reflex origin usually, while local causes may obtain, the indications are to remove the cause and to meet the local requirements.

In the preceding lines I have presumed upon your goodness, feeling the need of some introduction to the object of my paper. The objective symptoms in diseases of the skin may well be compared to the mariner's chart. I have often the habit of saying to my class, "Examine this man as if he were dead and dumb." It is not to discourage the importance of the history of the case, or of the subjective symptoms, but from the personal conviction that the skin is so often the mirror of internal conditions.

It is a recognized fact that the erythemas are relegated to certain specific originating causes, from the very location of the eruption. The nodular erythema, attacking the lower extremities, and on the anterior aspect of the leg, is always associated with severe rheumatic pain in the adjacent joints, and yields at once to anti-rheumatic treatment. Rheumatic purpura has the same classical localization and in evidence of its

causation, and suggesting treatment. Other diseases of the skin have especial affinities for definite localization, and the cause often regulates this occurrence. In acne there seems to be marked predilection for certain areas on the body. There is always a systematic tendency in this regard. When acne occurs in one well defined location, associated with this are patches of the diseases occurring in other areas at the same time. The usual point of attack of acne is the face; the chest and back less often, and other regions of the body unusually, are invaded.

The artificial acnes can be readily diagnosed from the acute inflammatory character of the lesions. The location on the chest, back, abdomen, or parts of the body other than the face, will at once lead to the suspicion. Occurring on the chest alone, or over the abdomen, with well-defined margins, the eruption suggests the application of mustard, turpentine, etc., which the history of the case will usually corroborate.

The character of the individual lesions making up the eruption will aid materially in the diagnosis. In artificial inflammatory acnes the usual comedones are absent, while the pustules, with inflamed areolæ, occur in larger quantity than the simple papule. Acnes of irritant origin are recent, while those from reflex causes are chronic, as a rule.

In iodide acne the eruption is due to the presence of the iodide in the skin, and the glands and the follicles are correspondingly subjected to an inflammatory process. For the very reason that the glands of the face are fully developed, the eruption tends to appear here in quantity. The cheeks, forehead, chin, etc., suffer most, because the glands do not functionate as well as those around the nose, or where there is better circulation. The eruption of iodide intoxication, however, is indiscriminately general, for the simple reason that the drug is indiscriminate in its own distribution. The cessation of the iodide will usually remove the eruption in a few days, depending upon the rapidity of the elimination of the drug by the emunctory organs.

The modesty, timidity, or carelessness of the patient oftentimes prevents an elucidation of the cause of acne, and even under a cross-fire of questioning the true condition of

habit, etc., are difficult to obtain. So, in aggravated cases there seems to be no apparent systemic fault, and one is constrained to relegate such cases to the class of non-specific acnes. I have grown suspicious of my patient's history, and trust more to correlative diagnosis than to the subjective incidents. The favorite sites of acne on the face are distinctly the cheeks, the chin, the forehead, then around and on the nose. Occasionally all these localities are involved at once. Oftener, however, the disease can be referred to one or two of these areas. It was just the observation of this fact that has led to the article I am now reading. The location of acne lesions is not indiscriminate, but with definite general conditions the location varies with the varying condition. In cases of acne where menstrual disturbances seem responsible there is always a marked eruption on the chin. Upon questioning patients the information is obtained that this eruption is always worse at the period. In many cases the patient avers that only at that time of the month does the eruption appear, and, usually, as a reminder of the approach of the period, disappearing when the flow is over. As about eight out of every ten women are constipated, this condition is usually found associated with the menstrual irregularity. When there is no menstrual disturbance, the acne from constipation always attacks the chin. When the constipation is associated with intestinal troubles, the acne involves the nose and *alæ nasi* as well. The acnes associated with rosacea almost always begin around the nose. Excepting a few, the causes of rosacea are referred to the intestinal canal. Indigestion, acute or chronic, catarrhal conditions of the stomach or duodenum, dietary irregularities, alcoholics, are chief among these causes. This type of acne is arranged around the nose, and, spreading out to the cheeks, involves them. Tea drinking, oatmeal, salads, sweets, condiments, etc., in acne subjects, find expression in lesions grouped classically about the nose. Cachectic acnes, acne varioliformis (of uncertain etiology, but associated with strumous or tubercular antecedents), tend to spread away from the nose and the zone of functional acne and find localization on the forehead, on the cheek, and on the trunk, suggesting the general origin.

Patients of nervous temperament, in neurasthenics, in those

who over-study, the acne tends to group itself on the forehead alone. Anxiety, shock or any reflex neurotic influence finds, in the acne subject, evidence in this same localization. These types may severally or all be combined so that their indications are confusing. It is necessary, in many cases, to take the causes *seriatim*, until the disease yields to the devices of your patience and judgment. For instance, the school-boy, over-worked, is often habitually constipated, and from irregular meals suffers with a varied indigestion. Here you would expect to find a general acne, on the face; the chin, cheeks, forehead, nose—all involved. In this case the elimination of one factor would scarcely remove the eruption. As the citation of cases is always uninteresting, I shall only refer to one or two types in point. A lady came to me the early part of last summer with an ugly acne confined to the chin. Upon questioning her, I discovered that she had been habitually constipated for twelve years, during which time the eruption had been persistent. With the habit corrected, the eruption faded rapidly, and in about three weeks she was well. Another case was treated for three months, a young girl of eighteen, when she stated that she had failed to tell me of her irregular periods, notwithstanding my having questioned her on this point at the first visit. The function was stimulated, the same external treatment continued, and the recovery was rapid.

I feel that it is not right to conclude my paper without some remark upon the treatment of acne.

The internal treatment must vary with the indications. For the external treatment, the "don'ts," are as important as the indications for positive treatment. In nearly all *acnes* hot water should be freely used. Perfumed and patent soaps should be condemned. White castile soap and Pear's unscented soap are the most desirable. The tincture of green soap is excellent when there are *comedones* present, but is irritant if used too liberally. In *pustular acnes*, when there are no *contra-indications*, sulphide of calcium, in pill form, best sugar or gelatin coated, is useful. *Ichthyol*, in 5 to 10 drop doses, answers the same purpose, *viz.*, tends to stop *pustulation*.

Where the eruption shows evidence of acute inflammation, sedative astringent applications must be made. Where the con-



dition is of long standing, stimulant applications are indicated with the object of opening the ducts and forcing the glandular action. In indurated acnes, with deep-seated pus lesions, surgical interference is necessary. The lesions should be opened and treated as small abscesses. Care must be exercised with the sulphur preparations, to avoid chemical combinations with a possible metallic salt previously used.

The frequent occurrence of acne does not make it a necessary evil in the community any more than the itch, and it deserves treatment as well. If the details of the simple diseases, like acne, were as carefully handled as in the more serious ones, the obstinacy, the discomfort and the frequency of such conditions would be much reduced.

*Medical Building, 17 and 19 Baronne Street.*

#### THE INFECTIOUS NATURE OF PULMONARY PHTHISIS.\*

By F. J. MAYER, M. D., SCOTT, LA.

*Mr. Chairman and Gentlemen of the Attakapas Medical Association*—The view as to the infectious nature of pulmonary phthisis, held by the Italians three centuries ago, found an echo in modern medical research as early as 1856, when Buhl pronounced miliary tuberculosis the result of absorption by a specific virus, a view entertained and taught by Niemeyer and demonstrated by Villemin in 1865, who succeeded in establishing the tubercular process in rabbits and guinea pigs, by hypodermatic inoculations with gray tubercles, cheesy products and the blood and sputum from tuberculous patients, as well as with the tissue from tumors of cattle suffering with pearly distemper.

Cohnheim confirmed the views of Villemin. Chauveau produced intestinal tuberculosis by the introduction of tubercular matter into the intestine of animals.

Tappeiner produced pulmonary tuberculosis in dogs by compelling them to breathe air charged with desiccated sputum.

Cohnheim and Salmonsens produced tubercular iritis by the introduction of tubercular matter, still further confirming

\* Read before the Attakapas Medical Association, May 1, 1894.

the assertion of Villemin that tuberculosis is caused by introduction from without of a specific germ.

Klebs, in 1877, discovered micrococci capable of producing tubercles when injected into healthy tissue.

Schuller claims to have made successful cultures of an infectious micrococcus from tuberculous and scrofulous tissue.

Aufrecht describes "glistening rods" obtained from cultures of tubercular tissue and from pearly tumors in cattle.

Finally the experiments of Koch, and his positive assertion, since confirmed by scores of competent observers, of the constant presence in tuberculous tissue or matter, of a well defined micro-organism, capable of reproducing tuberculosis when isolated and injected into healthy animals.

This micro-organism, now so well known as the bacillus tuberculosis, he declared required a temperature of between 86 deg. Fah. and 105.8 deg. Fah. for development, one of 100.4 deg. Fah. being the most favorable. He describes them as slender rods, varying in length from one-fourth to the whole length of a red blood corpuscle. Their repeated cultivation and inoculations with successive generations of culture always produced the same results. This would seem to demonstrate that infection is necessary to produce tuberculosis, although doubtless there are predisposing causes from heredity, or, as indicated by Formad, structural histological peculiarities, which favor the reception and afford a fertile soil for the reception and propagation of the spores of tuberculosis.

The researches of Koch seem to disprove the belief still held by some that tuberculosis and scrofula are identical, and also the heresy of heredity, not at all disproved by the fact that pulmonary phthisis occurs in successive generations of phthisical families, since those histological peculiarities already mentioned, together with the possible coexistence of a scrofulous diathesis, are fully sufficient to account for its presence, particularly when the victims have been exposed to the atmosphere charged with the spores, obtained from desiccated sputum of tuberculous ancestors. The entrance of the bacillus tuberculosis into the lymphatic current has been shown, and Weigert demonstrated their presence in the blood current. He has even seen them attached to the walls of blood vessels, both

venous and arterial; his observations have been confirmed by Klebs, while any portion of the human body may become the seat of tubercular degeneration. The respiratory and intestinal tracts are most usually the point of attack, particularly the former, on account of the large area exposed to infection from air inhaled and charged with the tuberculous germ.

The weight of testimony seems to uphold the view of Klein, that tuberculosis in man or in cattle is the same disease, and that milk from a tuberculous cow may contain the bacillus tuberculosis, no matter what part of the animal is affected, although Koch and Dujardin-Beaumetz consider there is no danger of infection save where there is a tubercular lesion of the lacteal duct. The experiments of Harold Ernst, of Boston, Mass., confirm the views of Klein, that a tubercular lesion of the udder is not necessary, but that the milk may be contaminated it matters not what part of the animal might be infected. The Scottish Metropolitan Medical Society, after a thorough review of the whole subject, unanimously agreed to the following resolution :

“That this society thoroughly believing tuberculosis to be a systemic and contagious disease urge upon the government:

1. To stop the sale of milk from animals suspected of being affected with tuberculosis.
2. To suppress the consumption of meat from tubercular animals.
3. To give compensation for a limited number of years.

The International Congress of Veterinary Medicine, convened at Paris, adopted the following resolutions :

1. Bovine tuberculosis is a contagious disease,
2. Tuberculous animals should be killed and excluded from the markets, it matters not in what stage of tuberculous process the animal may be, nor how apparently good the meat may appear.
3. A pecuniary indemnity should be given owners.
4. That the hides and horns may be used after disinfection.
5. That use of milk from tuberculous cows be prohibited.
6. That all dairies be subjected to government inspection.
7. The boiling of milk before use be recommended.

Of all the ills that human flesh is heir to there is none other so widespread and disastrous as pulmonary tuberculosis. In the mortuary records of all countries it stands at the very head of the list, and the total deaths from all zymotic and other infectious diseases does not equal the death rate from this fearful disease, whose spore defies the art of the medical man to suppress.

It is terrible to contemplate the unresisted march of this dread scourge, stalking through every hamlet in the land and laying its blighting touch upon homes where sometimes least expected, and to know that our efforts at cure are of no avail, and that not even prophylaxis in place nor person is practised.

There is not a community in this State that would not grow hysterical at the introduction of a case of yellow fever, cholera, or small-pox in their midst, and yet stoically and with a criminal and apathetic indifference they see the inroads and destructive effects of a disease infinitely worse than either, and one that in the long run has been a hundred-fold more fatal to the human race.

Thus, for example, in New Orleans, between 1844 and 1881, the mortuary records, compiled by Jones, show—

Yellow fever.....	28,739
Cholera.....	11,847
Diphtheria.....	2,017
Variola.....	5,731
Scarlatina.....	2,263
Measles.....	1,615
Typhus .....	1,422
Typhoid.....	3,786
Whooping cough.....	1,027
Total from all zymotic and infectious diseases.....	58,447

While during this period consumption alone claimed 26,244, and tabes mesenterica (1847-80) 4311, over 30,000 deaths, and this during a period when occurred the awful yellow fever epidemics of 1853, 1867, and 1878, and the cholera epidemic of 1849.

In Rio Janeiro, in 1886, an epidemic year, when the yellow fever deaths amounted to 1015, consumption is accredited with 2077.



In Havana, the official figures for 1880, among the civil population, give:

Consumption .....	1444
Diarrhœa and dysentery.....	636
Yellow fever.....	426

And this proportion and relative frequency obtains to a greater extent in other cities of the world. These three cities are selected because their mortuary record has been swelled by yellow fever and cholera in order to accentuate the relative frequency of tuberculosis.

Now in view of the facts and figures herein set forth can this ancient and honorable body of medical men, to whom, individually and collectively, the people of the Attakapas look up to for aid and counsel on all matters pertaining to public hygiene, remain silent and not give expression to their views on questions of such momentous import, and with such a direct bearing on the health and happiness of every home in the Attakapas? If I understand correctly the sentiment and temper of this body, it has a higher and holier aim than the mere indulgence of the social pleasures which a reunion of comrades in arms brings about. With this belief, permit me to express the hope that not only will the association give expression to its views on the subject discussed in a formal resolution, but that the individual members will, in their relation to the State, and in their daily rounds of duty at the hearthstones of the Attakapas, inculcate the wholesome lesson in the minds of their clientele and educate them up to the necessity of prophylaxis in place and person to resist the encroachment of this dire foe of the human race.

A formal resolution should be adopted, setting forth the following facts and embodying the following recommendations:

1. Tuberculosis is a communicable, preventable disease.
2. The sputum is the principal vehicle of transmission.
3. Consumptives have it within their power to protect their associates and increase their own chances of recovery by the proper disinfection of the sputum.

4. The American habit of promiscuous expectoration, apart from its indecency, is, when practised by consumptives a fertile means of disseminating the tubercular bacilli.

5. That parents with tuberculous children attending the public schools are earnestly urged to furnish the teachers of said schools with the facts, to the end that said teachers may exercise that same watchful care of the physical they daily devote to its mental development, and for the better protection of others.

6. That it is the sense of this body that all foreign immigrants suffering with pulmonary tuberculosis should be refused admission into the country, unless it can be shown that their immediate families or property interests are already here, or unless it can be shown that they are going to some particular sanitarium or health resort for such cases.

7. That it is the sense of this body that a municipal, county or State law should be enacted making it compulsory on hotels, boarding houses and sleeping cars to disinfect the sleeping apartments and bedding vacated by guests suffering with pulmonary tuberculosis, said disinfection to be performed under the supervision and at the expense of the county or municipality.

8. That it is the duty of police juries—

(a) To regulate and license public dairies.

(b) To destroy tuberculous cattle and indemnify the owners.

(c) To prevent the sale of milk from cows suspected of tuberculosis.

9. That police juries throughout the Attakapas be respectfully requested to appoint parish boards of health in accordance with Act 92 of 1882, and to appoint a parish health officer and sanitary inspector, whose duty, besides those usually pertaining thereto, it will be to visit and inspect the public dairies and to test the milk therefrom.

10. That the Legislature be petitioned to enact a law on vital statistics making it a criminal offence—

(a) To inter a human body without a burial certificate from a reputable registered physician, or the parish coroner, setting forth the cause of death, date, etc.

(b) Compelling physicians and midwives to file a certificate of all births with the parish recorder, except in the parish of Orleans, where the returns are to be made to the Board of

Health. Said returns to be made within ten days of their occurrence, and on special blanks.

(c) Compelling ministers and other persons authorized to perform marriage ceremonies to file a certificate of all marriages within ten days of the performance thereof.

(d) Compelling parish recorders to enter these vital statistics on a book kept for that express purpose, and a monthly copy of which to be forwarded by him to the secretary of the State Board of Health.

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#### REPORT OF A CASE OF POSTPARTUM HÆMORRHAGE.\*

By J. D. TRAHAN, M. D.

On August 26, 1893, I was summoned to the bedside of Mrs. A. B. for the purpose of attending to her in childbirth. The patient was 34 years of age and a multipara: never had any serious trouble during her previous labors. Arriving at the bedside I found her in the following condition:

Was informed that she had had a light chill a few hours previous, her skin was hot and dry, temperature 102 deg. marked fever; gave evidence of being fairly started in labor. An examination was at once made to ascertain the degree of advancement, and at the same time to trace out a line of operation. External palpation of abdomen soon revealed the fact that I had to deal with a case of plural birth; the abdomen was unusually large and the uterine cavity seemed to contain an enormous quantity of amniotic liquor. Next I proceeded to make a digital examination and found that the first stage was earnestly begun, os dilated about the size of a silver dollar and quite dilatable, the bag of waters beginning to protrude, pains recurring at intervals of eight minutes, and during an interval could easily make out cephalic presentation, head well engaged in superior strait, with left anterior occipitoiliac position.

There was nothing in this stage particularly suggestive of pending serious trouble and seemed to bid well for a termination of the work within a reasonable length of time. After waiting about an hour, finding the os fully dilated and with the

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\* Read before the Attakapas Medical Association, May 1, 1894.

view of having the contractions of the uterus to exercise pressure more directly upon the child, I ruptured the membranes, which gave issue to quite a flood, inundating the entire bed surrounding the patient; and in about an hour thereafter she gave birth to an average-sized child. There was a short pause in the pain, the child was separated from the mother and passed to a nurse, and an examination again made to ascertain the remaining condition of affairs; and as at first said, found another fœtus, but, unlike the first, was a breech presentation. Within a short while the pains were resumed, but quite inefficient in character; her pulse was quick and feeble, showing marked symptoms of exhaustion; at once gave ʒi of normal liq. ergot, which seemed in about one-quarter of an hour to have aroused the uterus to action; pains came on fairly well, and in a short while the second child was born, and of about the same size as the first; both living.

Patient continued to give evidence of exhaustion, as before stated, was losing a small quantity of blood, the uterus was somewhat larger than commonly observed. Concluded to administer another drachm of ergot and to wait some time for uterine contractions to set in—meantime using frictions over the uterus with the hand previously dipped in cold water; in about ten or fifteen minutes she felt a slight pain; palpation over the organ showed that the ergot was taking effect; was still losing an insignificant quantity of blood. About twenty minutes had now expired since the birth of the last child, and up to this time nothing pointed in a positive manner to the dreadful complication which was soon to supervene. Proceeding to examine into the situation, the placenta was found partially detached and partly resting in the vagina; judging the uterine contractions sufficiently active, and trusting that the influence of ergot would maintain their activity, commenced making pressure as per Crede's method, with the result of prompt extrusion of the placenta and without any trouble whatsoever.

It was unusually large, and must have been not less than three pounds in weight. With the exception of the patient still complaining of feeling worn out, pulse 120 and feeble, things appeared to be comfortable enough and in a tolerable good shape; but, gentlemen, it was nothing less than the pro-



found calm which so often precedes the most terrific storms. Placing my hand over the uterus I at once appreciated the threatening danger that was soon forthcoming; it was considerably larger than might have been expected and flabby. I immediately applied a towel dipped in cold water over it; but no sooner had this been done than the patient, with an expression anticipating evil, said to me that quite a gush of blood had come from her. The beginning of some of the most trying moments in the practice of obstetrics had now arrived, and face it with a most unflinching determination we must. The horrible sight which makes the great dread of obstetricians was but too plain. Promptly giving my attention to her warning, though not surprised, yet I was horror-stricken at seeing quite a torrent of blood issuing from the vagina.

Knowing full well what would be the inevitable result if not promptly successful in arresting this fearful amount of blood-loss, I quickly gave one more drachm of ergot, applied more cold water over the uterus, raised the hips and lowered the shoulders and with a syringe immediately injected cold water into the uterus. But soon finding out that it exercised no controlling influence on the hæmorrhage—the patient being now calling for air, saying that she was suffocating and feeling faint, she was bleached, looked distressed and urging every one around her for relief—with such a picture before me and at this critical juncture, believing that nothing but the most active measures would be likely to turn the tide in her favor, resorted at once to the intra-uterine injection of a diluted solution of persulphate of iron. The result was, in appearance, all that could be desired; the hæmorrhage ceased, the patient was made comfortable, and deeming it proper to wait some while before taking leave of her, retired in an adjoining room. After an hour of complete rest and beginning to indulge in the belief that all was fairly well, another alarm was given by the patient, stating she thought that there was a renewal of the flow; which, indeed, proved to be but too true. Next, but quickly, the uterus and vagina were firmly tamponed; while awaiting to see the result, I noticed that the vital fluid continued to ooze out.

Meantime dispatched a messenger to town requesting the

attendance of an assistant; the call was promptly answered by Dr. Trahan, Jr. Removing the tampon, introduced a piece of ice in the uterus and kneaded the organ constantly for some while, but again to find ourselves disappointed. Ergot was now freely used hypodermically, and hot water instead of cold was injected into the uterus, but again to no better result than with previous means. More iron was again injected, a tampon reintroduced, pressure made over the uterus and abdominal aorta, but still she bled. Life was now rapidly taking its flight, and in a few more short moments death closed the struggle for supremacy and stillness reigned forever.

Now, gentlemen, what is to be the deduction? For several reasons I have looked upon this case as worthy of a report; first, because I believe we should report our failures as well as our successes in our practice, and, second, because of the three main factors that stood pre-eminent in this case from beginning to end. The first one which I look upon as being the essential was malaria. I will here state that, from informations obtained, I learned that malarial fevers of an intermittent character had been pretty constant in its recurrence for at least the entire last month of gestation; producing as a result a truly hydræmic condition, well manifested by her pale and anemic appearance. From this morbidly attenuated state of the blood, it is easy to understand how utterly impossible it must be for blood clots to form in the uterine sinuses, whereby, together with uterine contractions, hæmorrhages are generally arrested. And I do believe that the poisonous action of malaria upon the vasomotor centres is such that they respond poorly, very poorly, indeed, to the administration of stimulants directed to these centres, as was fairly exemplified in this case by the hypodermic use of strychnia, digitalis and sulphuric ether.

The second factor was an over-distention of the uterus, caused by the presence therein of two fœtuses—a very large placenta and an enormous quantity of liq. amnii. These causes having maintained their action for such a long period of time that the organ had, in a great measure, lost its contractile power; and the third factor being that of impaired health from constitutional predisposition, several members of the family having, to my personal knowledge, succumbed to

tuberculosis, a potent factor, I believe, sapping the constitution from its very foundation, seriously lessening the sum total of vitality, and thereby also lessening the power of resistance to diseases, shocks operating upon the nervous system and to acute affections.

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## MAUREPAS ISLAND AND ITS DISEASES.

### GALL STONES, THEIR ORIGIN AND TREATMENT.

BY T. B. ODOM, M. D., AND OTTO LERCH, M. D.

During a residence a few summers ago at Maurepas Island, Livingston parish, our attention soon was called to an affliction which attacks regularly in the hot months, from July to November, a large number of the female population. The male members of the families are but little affected by this disease, which though appearing with each returning summer is never expected by the sufferers. It comes without warning, and disappears as suddenly as it comes. Yet its paroxysms are terrible to behold, and the frightful pain it causes the patient causes him, as well as his relatives and friends, believe that the end has come. Appropriate observations, permitted in every case accessible to us, to make a diagnosis of passage of gall stones.

The formation of gall stones is little understood. According to Flint inflammation of the gall bladder may lead to the formation of biliary calculi, the mucus furnishing a nucleus for the collection of the solid constituents of bile. According to the same author a precipitation of cholesterin, an excess of lime or bile pigment, a continued retention of bile in the gall bladder or of an excessive amount of its solid constituents has been conjectured to lead to the production of calculi.

Professor Loomis, in his text book of practical medicine, mentions their greater prevalence in women than in men, and believes this to be due to their less active mode of life. This writer also speaks of a diet over-rich in fats, animal food, or alcoholic beverages predisposing to their formation and claims to have been able to make out in some cases an hereditary predisposition to the formation of gall stones. He believes that the menstrual epoch influences their formation.

The causes stated above enter, as it seems, the formation

of biliary calculi in the patients observed by us. However, the general conditions which underlie and produce these various causes, and a removal of which only can lead to a permanent cure, in this instance has not been mentioned by the renowned authors.

Maurepas Island, Livingston parish, a part of South Louisiana, is formed by the Amite and Blind rivers, both of which empty into Lake Maurepas. There Blanc Bayou traverses the island in an easterly direction. The whole area, 140 square miles, with the exception of not more than one-third, is subject to annual overflows during times of continuous rains and high tides, and a large part of this last third is during occasional crevasses (breakage of the Mississippi levees) submerged. The island constitutes a part of the cypress swamps of the State, and formerly was a shallow lake bottom—portion of the immense Mississippi delta, which in not very recent times occupied all of lower Louisiana. Continental elevation has raised it above the water, but so gradually that it forms an almost level plain, its highest point of elevation being not more than eight feet above the waters of the neighboring lake, which has connection with the Gulf of Mexico. The incomplete drainage which this topographic feature conditions, coupled with a nearly impervious under soil, sifted and beaten by the waves of the gulf, which have played over it for ages, an abundant rainfall, a moist atmosphere and a subtropical clime favoring a luxuriant vegetation, have converted the island into one dense swamp.

More than a century ago a few French families dared to penetrate into this wilderness; coming from the banks of the Mississippi river, actuated perhaps by a spirit of adventure and tempted by the large cypress trees which at all times formed a valuable article for the timber market at New Orleans.

In course of time they found some followers, and the present inhabitants living on the island and around it scattered about, and in two small settlements spring mainly from this early stock, so that we find but few family names represented. Ever since the first settlers built their huts on the Amite river felling and preparing the cypress timber for market has been the sole occupation of the inhabitants. For this purpose the



trees marked and girdled a few feet above ground during the dry season are cut when the water is high enough are floated, tree by tree, along circuitous roads in the swampy forest to the higher places, generally the bank of the river, where they are cut into staves and shingles, or, coupled to each other, and floated along the river to the nearest saw-mill to furnish building timber. Throughout the year then the inhabitants of this island are at work in an atmosphere saturated with malarial germs. Their occupation is called swamping and they themselves are not improperly named swampers by the people of the neighboring "hills." Their homes are built upon the more elevated places, surrounded during several months of the year by water. Boats and flats take the place of wagon and horse, and the roads converted into channels furnish convenient waterways.

As a rule the men commence working at sun-up, leaving their homes at 2 or 3 o'clock at night, according to the distance to their place of work, finishing at 2 or 3 o'clock in the afternoon. The women hardly ever leave the house, attending to household duties and preparing the meals, consisting of rice—beans and bacon and rice forming the main diet—with occasional fresh meat and vegetables and eggs.

If we sum up the foregoing we find that the settlers spring from French ancestry, a nation notably of nervous constitution. Transplanted, more than a century ago, into Louisiana, its subtropical clime developed in them the tropic diathesis and a constant exposure to malarial influences engrafted upon this stem the malarial cachexia. If we consider, furthermore, that a frequent intermarriage between blood relatives has debilitated the inhabitants, we can not think it difficult of explanation that the people of this island should suffer from this painful disease. In fact, we find almost an ideal ground for its development. In the constitutional type we see the tropical diathesis foreshadowed ready to receive it and the cachexia, meaning low combustion, excessive action of the skin, sluggishness of circulation, and an irregular and slow action of the intestines.\* This gives rise to the secondary effects mentioned by the quoted authors—thickening of the bile and blood, precipitation of the solid constituents of bile and continued retention of it in the gall bladder.

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\*Lectures of Professor Elliott.

Frequent acute malarial affections may furnish the secretion of mucus which has been thought necessary as a nucleus for the collection of the solid matter to form the calculi. Considering the marked prevalence of the disease in women, we see that it exactly corresponds with their mode of life.

Thirdly, can we doubt that the influence of exercise by causing the imbibition of large quantities of water in this hot climate, and answering the double purpose of stimulating every organ in the body to greater activity and thinning the blood, prevents to a large extent the formation of the gall stones?

The report of one case at least may be of some interest: Mrs. A., age 36 years, medium size, nervous temperament, tropic diathesis, malarial cachexia, mother of 6 children, presents an anæmic and emaciated appearance, liver and spleen enlarged, gall bladder intensely sensitive. When first seen complained of severe pain in the epigastric region, radiating pain over the abdomen from the umbilicus, sense of fullness, nausea and habitual constipation, conjunctiva of yellowish color, skin somewhat jaundiced, tongue normal. Ordered 4 grains of calomel every two hours till 12 grains are taken, followed by a brisk saline purgative in the morning. When seen next morning patient feels a little relieved, but still complains of pain, especially in left hypochondriac region. Ordered complete rest, hot applications over the abdomen and milk diet. When called at night found patient screaming in agony, with legs drawn up and rolling about the bed. Touch of any part of the body seems to intensify her pain. Sulph. of morphia given hypodermically till the pupils presented the pinhead appearance without affording perceptible relief. Chloroform administered by inhalation and changed for ether on account of excessive depression. In the course of half an hour cries begin to lessen and legs gradually relax. Next morning found patient in an exhausted condition, incessantly vomiting and complaining of severe headache. The vomited matter consists of almost pure bile, coloring the bed-clothes green and mixed with broken calculi, which also are found in the fæces; vomiting relieved with ice and with it headache. Ordered stimulants and liquid diet. Third day patient feels comfortable, region of gall-bladder still very

sensitive, urine of mahogany color. After treatment: nutritious diet, 20 grains sod. phospt. three times a day, alkaline water and exercise.

The treatment during an attack of passage of biliary calculi must be conducted according to the principles laid down by the text books—that is, pain must be relieved and stimulants administered if the patient shows signs of collapse.

However, if we consider the means to cure our patients permanently we find that these are very unsatisfactory. At once it suggests itself that the removal of the conditions which have produced the disease will lead to recovery.

The change of abode then to a country free from malaria, and latitude high enough to counteract the tropic diathesis, coupled with a more active mode of life, promises most and must give the best results. Unfortunately, however, this is almost in every case impossible to accomplish on account of the poverty of the patients. In those few cases where we find them in circumstances allowing such a change we meet with a resistance not to be overcome. These people stick to their swamps like the Esquimaux to their ice and snow fields and the Tyrolese to their Alps. The consideration of this radical remedy, then, is out of the question, and we must look for those left to us. The best is beyond all doubt exercise, for the reasons stated above. It stimulates every organ in the body to greater activity and thins the blood by forcing the individuals to imbibe large quantities of liquids.

It is self-understood that the diathesis and the cachexia must be treated, and though of course they can not be obliterated in this country, a careful and intelligent treatment will put the patient in the best condition which can be obtained under the circumstances. It is superfluous to repeat the methods used, but it may be mentioned that especially acute malarial attacks ought to be avoided and vigorously treated when this can not be done. They especially tend to increase the congestion already existing in the malarial liver, a condition most favorable to the formation of the calculi.

By some writers the disease has been attributed to a highly seasoned diet, and to the use or abuse of alcoholic beverages, strong coffee, beer and other stimulants. To us it seems a

more reasonable explanation that these stimulants do not produce the disease, but that the morbid state of the patient calls for them so that his circulation may be quickened and his organs may perform the task which they could not do without them.

A prolonged course of alkaline mineral water or sodium phosphate, probably by giving an alkaline bile, has been found useful in the treatment of this malady. Quite a number of drugs have been administered now with the view of dissolving the stones. To test their efficacy in this respect, the following experiments have been made.

Through the kindness of Mr. Gessner, R. S. of the Charity Hospital, gall stones measuring about one-quarter of an inch in diameter, and recently obtained by him from a gall bladder at a post-mortem in the morgue of the above hospital, were carefully weighed. The stones were then placed in the respective solutions contained in test tubes. The tubes corked, labeled and pneumatically sealed with plaster of Paris, were exposed to a temperature varying from 110 to 120 deg. Fahrenheit, for twenty days, and at various times the changes noted. In order to test the effect of the drugs on bile, ten drops of bile were added to a drachm of each of the solutions, and these, pneumatically sealed in test tubes with plaster of Paris, were exposed to the same temperature and for the same length of time.

The experiments were conducted in a room furnished by Mr. Osborne, the director and owner of the New Orleans Turkish baths.

Olive oil, chloral hydrate and sodium chloride, which are used in this disease, though not with the view of dissolving the calculi, were also tested, but, as was to be expected, gave but negative results.

If we consider the loss which we find in most of the calculi after the long exposure to a temperature far higher than that of the body, due to some softening and crumbling of the stones, we must come to the conclusion that none of the drugs used in this disease have any power whatever to dissolve them. They remain unaltered even if placed like in the above described experiments in the most favorable conditions.



Some of these drugs have been by various operators directly injected into the gall bladder, and if they have not injured the patient in every case they certainly have not done him any good. The benefit derived from the use of these drugs, of which we especially mention sodium phosphate, bicarbonate of soda and alkaline waters, is most likely due to their property of alkalinizing the bile and to stimulating the liver. Olive oil, if of any use at all, probably acts mechanically. The beneficial action of the remaining drugs is no doubt due to their relaxing power during passage of gall stones, and to their effect on the constitutional state of the patient. Finally we will mention that we too have noticed biliary calculi in mothers and children, but in the instances observed we can not consider it due to hereditary predisposition, but rather think that the conditions fully set forth which lead to the formation of calculi remaining the same, explains this sufficiently.

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#### TREATMENT OF TYPHOID FEVER FROM THE STANDPOINT OF A LOUISIANA PRACTITIONER.

BY ISAAC T. YOUNG, M. D., LINDSAY, La.

Just now, when the subject of typhoid fever, or the continued fevers of Louisiana, is up for discussion by the medical fraternity of this State, and when the difficulties of making out the case by the type, as laid down in the text books, are being so ably discussed that it causes one who has met all these difficulties to wonder that the discussion has been so long deferred, it may prove of interest to the profession to read something of its treatment from one of the busy practitioners of the State.

The arguments presented of late, through the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL, for independent thought on the part of the profession of the State, as to type, hold good as to independent thought on the subject of treatment also.

Especially does this idea impress itself on my mind, when the leaders of thought are geographically remote from the malady to be treated. I wish to offer no disrespect to the teachings of our colleges, or to our text books; they serve

their purpose well, but they are not designed to throttle or prevent independent thought, but to direct and encourage it, while laying the foundation by which it may become possible. Again, our leaders must be upon the field if they propose to direct the forces which move in this great battle for health. If they undertake to lead while they are ignorant of our environment, and ignorant of our foe, they must, like General Braddock, who ignored the counsel of his subordinates, suffer defeat and death, despite their skill and experience in other fields.

The profession recognizes no specific in the treatment of typhoid fever, and therefore we should be the more careful not to do too much. There is a number of other self-limited diseases for which we have no specific.

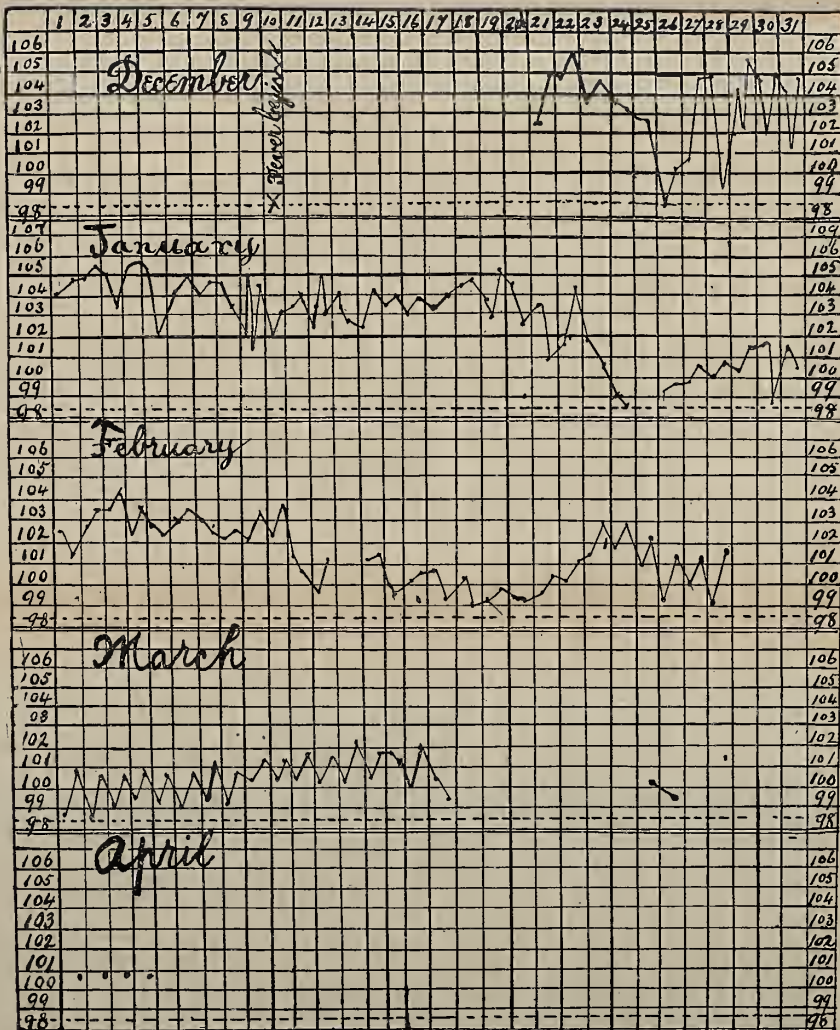
In these we can only hope to guide to a favorable result, and in the treatment of such we should look beyond and not place too much importance on the present condition of our patient as regards appearances.

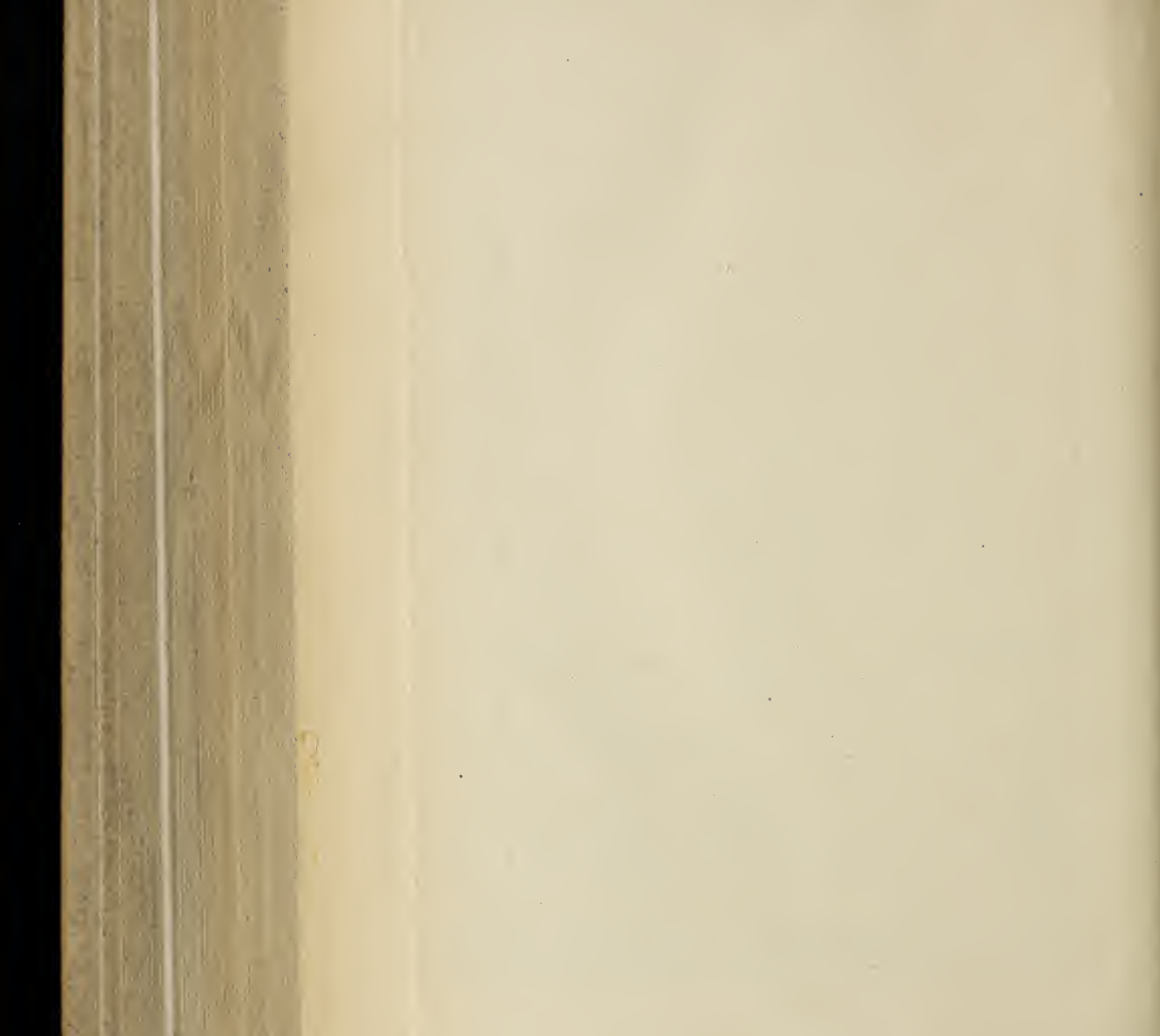
My chief object in writing this article is to furnish one of the bricks for the foundation of the tower, from which, ten years hence, will be sounded the knell of the coal-tar antipyretics in the treatment of typhoid fever.

I would not be understood to be opposing the coal tar group in the general practice of medicine, but only in the continued fevers of Louisiana, and especially in typhoid fever. As far as my knowledge goes the coal-tar antipyretics have no specific effect on any disease. Their effect is magical in giving temporary relief, when nature can do the rest; and the patient is ready to say "God bless the doctor." This applause has its influence, I fear, in forming the doctor's opinion as to after treatment, and sometimes against his better judgment and knowledge of its transient nature.

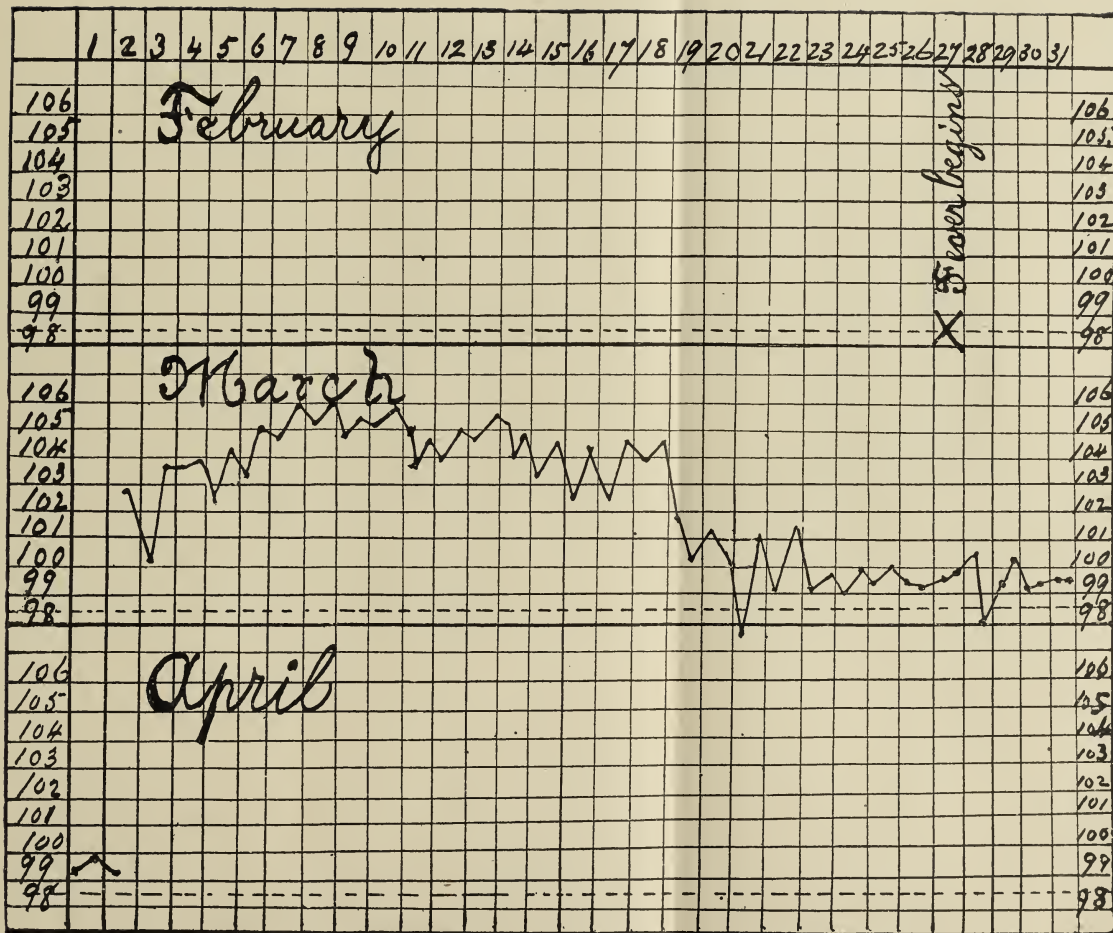
And now as to its use in typhoid fever.

Typhoid fever is a continued fever, and when a dose of a coal tar antipyretic is given it depresses the fever, which is subjected to a corresponding reaction of at least one degree, so that a temperature of 104 deg. if depressed and then released will go to 105 deg. at the same time the next day, or, at least, at such time as the patient may be from under the influence of

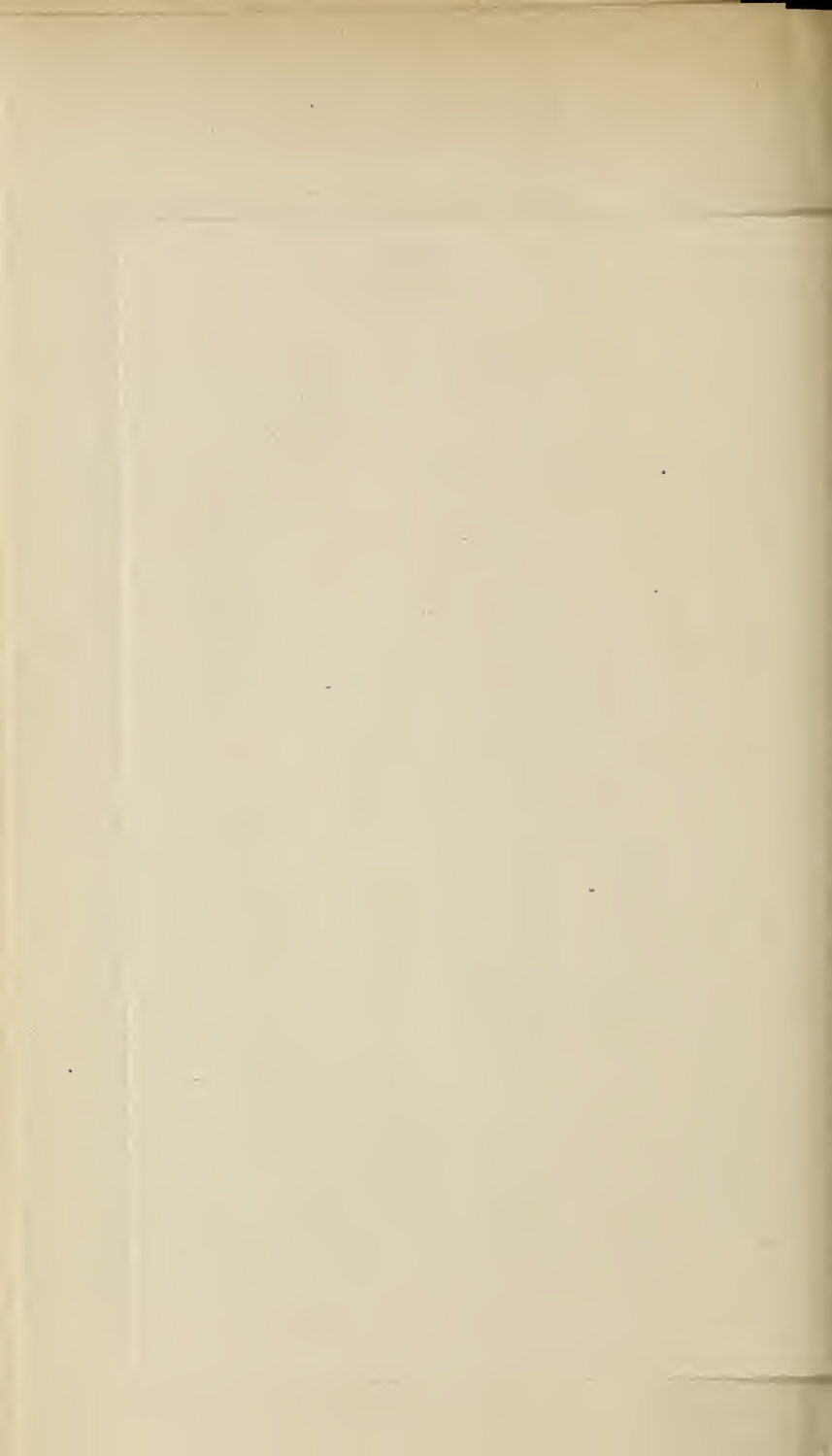








CASE II.—Dr. I. T. Young.—Typhoid Fever. No coal-tar antipyretics. Hæmorrhage on March 16, 1894.  
Abscess on March 18, 1894.



the drug, and all other things are equal. This necessitates a repetition of the drug, which, in time, disturbs the type of the disease, affects the nervous system unfavorably, and inhibits combustion, which leaves the partially consumed products of dead tissue in the system to poison the blood, thus promoting complications, and, if the patient survives, the treatment seriously protracts the illness, at least in the severe cases, in which its advocates insist that its use is indispensable. In measles and in other self-limited diseases, a typical case is regarded as a favorable one, and although the eruption should be severe, and the other symptoms severe also, no practitioner would for a moment think of using means for lessening the eruption, or in any way disturbing the type. He might try to relieve symptoms, but not disturb the type.

Typhoid fever is described by the books as a typical fever, and yet the latest authors lay stress on keeping temperature down. I am satisfied that there is too much importance attached to the temperature in this disease. My patients with temperature of 105 and 106 deg. make good recovery, with only palliative and sustaining treatment, together with cold applications to the head when indicated.

If there is any truth in the theory that a high temperature will burn up healthy tissue to an extent as, in itself, to threaten life, that temperature must be above 106 deg., in typhoid fever of our section, at least. I have demonstrated this repeatedly in a practice of over sixteen years; therefore the facts are, that if this theory is good at all, the figures are entirely too low in typhoid fever of Louisiana. Would it not be better to reverse the theory, and say the fire is according to the fuel; this fuel must be burned up, and if you cover it up and can not put the fire out, it will burn longer and leave its charred remains behind?

What is the effect of the coal-tar group of antipyretics in this disease?

Have you ever, before this group came into use, stood by your patient suffering with a remitting type of malarial fever, and witnessed a progressive and rapid fall of fever? Have you not had your heart beginning its rejoicings at the happy termination of this troublesome malady? Have you not, I say,

begun to congratulate yourself on your success in combatting this disease, when suddenly you would see your patient shiver, then would follow a rigor, and then the temperature would go above where it had been before and all the symptoms would be aggravated, when you would learn that the monster had just recoiled to make a new bound?

Let us inquire here, What is the cause of a chill? Some scientists tell us it is a depression of the vaso-motor centres. Assuming this to be so, the inference is that if a drug can be found which will depress these centres, it will produce a chill if it has sufficient power; and, *vice versa*, if a drug will produce a chill, it will depress the vaso-motor centres.

Now, I claim that such a drug does exist in the coal tar group, and that I have the evidence against one of them at least—namely, phenacetine.

In 1890 I had a relative at the Louisiana State University at Baton Rouge. A continued fever prevailed there which did not present the type of typhoid fever, yet was so regarded by some of the local physicians. My relative was taken with this fever, and on my arrival I found him in good hands in the person of the University physician, who was also one of the busy practitioners of this city. The doctor stated that the fever was prevailing in the city, and that it did not yield to treatment, but would run twenty-one days, which I soon found to be so, when he consented for me to try to break it, and everything I did did harm. He said it was regarded as typhoid, but was not typical. When I arrived the doctor was giving him phenacetine; as well as I can remember the dose was 7 or  $7\frac{1}{2}$  grains. Just six hours after the first dose he had a rigor, and the fever rose again and went very high. The patient insisted that the rigor was caused by the drug. The doctor came, and rejecting the idea of the drug causing the chill, gave him another dose. In half an hour the fever began to fall, and the patient's condition improved for about six hours. The temperature was nearly normal, when he took another rigor and the fever rose again. He suffered so that I think I gave the next dose before the doctor returned, but in obedience to his orders. The patient protested very seriously, and charged the phenacetine with producing the chill, claiming that it would do it



every time just six hours after taking it, and only consented to take it on condition that if the chill returned, as predicted, he should take no more. I timed it, and just six hours after administering the dose he had a hard rigor, so hard indeed as to call for energetic treatment to bring about reaction. The phenacetine was left off and the patient had no more chills. This was my first introduction to phenacetine. I was pleased with its possibilities, although convinced that it was contra-indicated in the case in question. I took some home with me and used it on malarial fever with charming results in the intermitting type, but doubtful results in continued fever. It was for two years almost the only one of the coal tar group which I used, and I used it very often.

In 1892 I treated a case of typhoid fever in a family who were very anxious about results, and when the patient's temperature reached 104 deg. I found it hard in spite of my experience and judgment to resist the temptation to give phenacetine, and finally after some days, and after the suggestion by a member of the family, I did give it. I left my patient apparently doing finely, and the family pleased, to return the next day to find the patient's temperature at 105 deg. It took about two days to get back to 104 deg. again. After waiting about a week without much variation in temperature, I ventured another dose of phenacetine, this time followed within about six hours by a hard rigor, and again a temperature of 105 deg.

I could multiply the list, but will content myself with the report of two cases, accompanied with charts, showing comparative results of treatment with coal tar antipyretics, and the palliative treatment, which will not disturb the type.

Before reporting these cases I have one more proposition to make, namely: that external anæmia means internal hyperæmia; that anything which will produce a chill, whether a disease, or a drug, will promote internal hæmorrhage. In my article on the treatment of malarial hæmaturia (see *Southern Medical Record*, September, 1889) I laid great stress on preventing the chill as a means of preventing a return of hæmorrhage.

So internal hyperæmia should be carefully avoided when internal hæmorrhage is one of the symptoms of a disease.

The hæmorrhage is an important diagnostic feature in typhoid fever, especially when a coal tar antipyretic is used, for it renders most of the other symptoms obscure while it promotes this one, if indeed it does not cause it.

I was called to case No. 1 on December 13; she had been complaining about three days, had slight fever, and complained of wandering pains, slight cough, etc. I diagnosed grippe, which disease was very prevalent at that time. The patient, not considering herself very sick, did not at first observe my instructions closely enough for me to say what she took each day. As the fever gradually grew higher she was put on Dover's powder and antikamnia to relieve pain and reduce fever; cinchonidia was also given for a few days to prevent the rise of the fever.

When I had been pursuing the coal tar treatment combined with Dover's powder for several days with encouraging results, my patient, on the 26th of December (seventeenth day of the disease) had a severe hæmorrhage from the bowels, which reduced the temperature from  $102\frac{3}{4}$  deg. to  $98\frac{1}{2}$  deg., which was probably a little less than normal, as the thermometer used in this case, and which was the same as used in case No. 2, registered a fraction higher than others with which we compared it.

The antikamnia and Dover's were left off and ergot and tannin given. On the day following I found patient's fever had risen to  $104\frac{3}{4}$  deg., it not being restrained by medicine. On the next day, the 28th, a friend took charge of my patient, by my request, as I was in bed with grippe. On the 31st of December, yielding to the entreaties of the family, I returned to my post, not able, however, to resume my practice, so I remained with the family until I could recruit my strength.

By this time the doctor had resumed the coal tar treatment, and regarded the case as one of typhoid fever. I was not yet prepared to look upon the case as true typhoid fever, but rather inclined to regard it as a typhoid type of la grippe. I held that grippe could ape anything, and had probably assumed the typhoid form. I therefore consented to continue the treatment, using the coal tar derivatives.

This treatment produced shortness of breath and restless-

ness to such an extent that I proposed a change of treatment when the doctor returned the next morning. The fever rose so high (105 deg.) that upon the doctor's return the next day we resumed the coal tar derivative.

The result was so unsatisfactory that the next day, January 4, we withdrew all remedies, to get our bearings before resuming treatment. Being called away by sickness in my own family, the family became alarmed, and on our return, January 5, we learned that further advice had been sought, and a consulting physician was expected in a few hours. The condition of several of my family was such that I could not remain for the consultation; however, my friend who was assisting me in the case met the consulting physician, and the patient was again put upon the coal tar derivatives, guarded this time by alcohol and digitalis, and a more energetic use of cold and sponging. The antipyretic being thus antidoted, as I regard it, was better borne this time, and the patient apparently much improved by the treatment.

Within a few days (on January 9, I believe) a relative of the patient, a practitioner from a distance, came, and we were requested to consult with him.

This brought me to the front with my views in the case. I stated to the doctor that while I was willing to hear his opinion of the case that he must understand my position at the beginning, viz.: That I was nominally in charge of the patient, while virtually I was not; that the consulting physician, who was then present, had met the last physician in consultation, and was more in sympathy with his suggestions and was carrying them out in every detail, while I was looking on, awaiting results; that they were gentlemen of reputation, and backed by the text books and leading members of the profession, while I was alone, as far as I knew, and I submitted to their judgment, while I could not surrender my own, backed by my experience at the bedside.

Then I began with my views as before stated in this article. That the temporary benefit gained must be compensated for in the outcome; that the type was disturbed by these antipyretics; that combustion was inhibited, and the poison, resulting from imperfect combustion, retained in the system; that hæmor-

rhage was promoted by their action and the nervous system disturbed; that the disease would be protracted until the poison could be eliminated, and that there was more danger of complications from these antipyretics than from high temperature. I closed my statement to the doctor by predicting a very protracted illness if this treatment were continued, notwithstanding the favorable appearance at the time of this consultation.

Phenacetine was the antipyretic we were using at this time, having tried three or four of the coal tar group before this one. This treatment was continued until January 12, when phenacetine was reduced in daily quantity, and eight grains of Dover's combined with ten grains of phenacetine, made into eight doses, and one given every three hours, was continued until the 20th January. The effect of this small quantity of Dover's was to check the bowels, which were moving four or five times in twenty-four hours, so that the bowels were moved by enemata as necessary, while this treatment was continued. There were no appreciable bad results from this change. The distention, if increased at all, was very slight, and the stupor, which seemed to contraindicate the Dover's, was not increased, if indeed it was not less marked, and the tongue did not become drier, but was moist in a few days.

The charts which I submit with this article will throw light upon this case. Suffice it to say that on the 4th day of April, the 117th day of the disease, my patient had a temperature of  $100\frac{1}{2}$  deg. in the evening, and her mind was not entirely restored. The entire temperature chart, as taken by the doctors and nurses in this case, would almost make a little book of itself.

As I stated, I diagnosed this case on my first visit as probably gripe—I say probably because I expressed a doubt, but as gripe was at the time epidemic in the vicinity, I became more positive in my diagnosis, and treated accordingly, until convinced that the typhoid element at least predominated, when I wished a corresponding change in treatment.

CASE No. 2.—On the 27th day of February a second case occurred in the same house. This case presented none of the symptoms of gripe, and has led me to question just how far gripe was a factor in the first case. After the usual delay for



developments I pronounced it a case of typhoid fever. The gentleman of the house announced to me at once that I should have full control of this case, and that it should be a test case of my theory of the treatment of typhoid fever, promising me the same nurses and the same attention and care in carrying out directions; I accepted the proposition and resolved to back my judgment and abide the consequences.

In the beginning of this fever, and before my diagnosis was made, I undertook to break it with calomel and cinchonidia, with no appreciable result, but a temporary depression of temperature while under influence of cinchonidia. This practice, in treatment of a fever in its first week, is hard to avoid in this malarial country. It may relieve us of the malarial element of the disease in some measure, but it is certainly prejudicial to the typhoid element in the case.

As soon as the diagnosis was made I left my patient on simples, or placebos, for twenty-four hours, until I could get the bearings. The next day, March 7, the ninth day of the fever, I found my patient with a temperature of 106 deg., tremors very marked, tongue coated but not dry, breath very offensive, and the patient's condition very unpromising. The patient, a girl of 12 years, was put on two grains of Dover's every three hours, washed down with three tablespoonfuls of sweet milk, in which was placed a tablespoonful of a solution of carb. ammonia, which contained about six grains to the ounce of solution.

I made a carbolized solution, containing a little glycerine, for a mouth-wash, and left the temperature to take care of itself, except so far as the Dover's powder could affect it, combined with proper use of cold to the head. On the next day (the tenth of the fever) the temperature was 106 deg., but no tremors, no dry tongue, mind clear, and my patient quiet and comfortable. The temperature approached but did not quite reach 106 deg. on the eleventh and twelfth days of the fever (9th and 10th of the month); on the thirteenth, fourteenth and fifteenth (of the fever) it reached or slightly exceeded 105 deg.; on the sixteenth, seventeenth and eighteenth it was below 105 deg. On the last of these days (the eighteenth of the disease) the patient had a slight hæmorrhage from

the bowels. The hæmorrhage occurred in the latter part of the night, and the decline of temperature was from 104 deg. at 1:30 A. M. to 102 $\frac{3}{4}$  deg. at 5 A. M. The temperature fell to this point, or lower, every morning after this, except the twentieth of the fever. At this time the patient was suffering with an abscess in the region of the submaxillary gland. The patient was discharged on the twenty-eighth day of the fever, 26th of March, with a temperature of 100 deg. One week later her temperature was 99 deg., and patient convalescing rapidly, and soon resumed her usual duties, while case No. 1 is still an invalid.

#### CONTRAST.

While I believe there was grippe complicated with typhoid fever in the first case, it does not seem to have affected the course of disease very materially within the first eighteen days, and the question is, whether it was complicated with grippe, or was my first diagnosis erroneous? We recorded no temperature during the first week, but my recollection and that of the family is that it did not go above 102 deg. On the evening of the twelfth day of fever it was 105 deg.

Case No. 2 had a temperature of 106 deg. on the ninth day, but was taking no antipyretic.

Case No. 1 had a severe hæmorrhage on the seventeenth day of the fever. Case No. 2 had a slight hæmorrhage on the eighteenth day of the fever. Judging from these facts it is hard to say what part, if any, the grippe played in the fever. It probably had some effect, but it is hardly reasonable to charge so mild a case, which produced so slight a change in the onset of the disease, with the ninety-one days of excess of time the first case had over the second. It is true that the first patient had an abscess at the root of a tooth, which gave trouble, but the effect was too transient to produce the delay in question, and No. 2 also had an abscess. No. 1 had a relapse, but this will not account for the difference, and may have been promoted or caused by the type being disturbed.

Besides, case No. 1, after the fever declined, loathed food to such an extent as to cause alarm, for fear of starvation, and convalescence has been very much retarded. In case No. 2,

the appetite returned as soon as the fever began to decline. In this case, although the temperature ran higher than in the first, there was no dry tongue, mind clear, and the patient usually slept, or rested well, throughout the whole course of the disease, while the reverse was the case to a marked degree in No. 1, for about two months after she was taken.

In conclusion, I will say, the nausea usually present during the first week in typhoid fever prevents, to some extent, the early use of Dover's powder, but by the time the diagnosis is made out it can usually be given. It is not, however, indicated in all cases, and when not indicated should not be used; when nothing is indicated, nothing should be done. My patients often do well with nothing but good nursing and sustaining measures. It is not good practice, in this disease, to physic the patient just because they have fever, and that when they are comfortable and otherwise doing well. The fever is only a symptom, and unless we can remove the cause we had better keep our hands off until there are indications for interference; then meet the indications in as mild a manner as possible.

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#### WATER A SOURCE OF MALARIAL FEVER.\*

BY CLAIBORNE STEEK HYLAND, M. D., YOKENA, WARREN COUNTY, MISS.

Without attempting to present any theory as to the origin, or stating the reasons for so thinking—so well known to the medical profession—I will assume that the phenomena we term malarial fever is due to the introduction and subsequent development of a specific germ in the human blood.

As the name implies it has always been, and still is, generally supposed to be introduced into the system only through the air we breathe. Observation, though, throughout the malarial districts of the South, has led a great many of the intelligent laity, as well as physicians, to think it is also introduced into the system by the water we drink. I myself think this is the most fruitful source of its introduction.

My home being situated in a pre-eminently malarial dis-

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\*Graduation thesis.

trict, immediately south of Vicksburg, Mississippi. I have had many opportunities for making the following observations.

In my immediate section of country, prior to 1880, the death rate from malarial fever was enormous—so much so that it had gained an unsavory reputation abroad, greatly to the detriment of its people. Since that time more attention has been given to the water supply of the country, and malarial fever has been so much reduced as to make it comparatively a healthy community.

A few years prior to 1880, on our property, was driven possibly the first “drove well” in that part of the State. It was driven about seventy-five feet, and far below the surface or subsoil water. The first year after it was driven it was noticed that five or six negro families who used the water had entire immunity from malarial fever. In a few years, from the use of water from this well, the general health of the plantation was so markedly improved as to lead a great many to think that the water had medicinal properties. Time after time, within the past ten or twelve years, I have directed those on the plantation who were suffering from malarial fever to stop the use of surface water and only use water from the deep well, and invariably with good results.

About 1880, drove wells, varying in depth from sixty to one hundred feet, began to be driven throughout the valley portion of the country, and they unquestionably have been potent factors in reducing malarial fever. There is less malarial fever and a better water supply also on the plantations where they are used, the families using water from them are free from, and those who use water from barrels, ponds, ditches, etc., still suffer with malarial fever.

In the summer of 1883, during the construction of the Yazoo & Mississippi Valley Railroad, a squad of about two hundred workmen, with their managers and engineers, were stationed on our property. They used the water of ditches, springs and creeks along the line of their work, and the amount of malarial fever and death among them was very great—interfering materially with the progress of the road. The only ones among them who escaped were a few intelligent Americans, who took my advice and only used water from a drove well, sixty-five feet in depth and situated a mile from their camp.



The effect that good water had in preventing and that impure water had in producing malarial fever was so evident during the construction of this road through the malarial districts of Mississippi as to lead the superintendents to have large, deep cisterns constructed at their various sections and filled during the rains of winter. This is still kept up at the station on our property, and there is noticeably very little malarial fever among their employees.

My father, a man of profound education and thoroughly acquainted with the medical literature of his day, was extremely careful in providing for family use only the best water possible. He collected in large, deep and clean cisterns the water from sleet, snow and rain storms of winter. His children were remarkably free from malarial fever, although our home was situated on a hill, immediately overlooking a low and poorly drained swamp.

The above facts coming under my observation have led me, since taking up the study of medicine, to closely observe the effect that water had in producing malarial fever, and in the past three years in going to the homes of the sick of my community I could, in the vast majority of cases, trace it directly to a bad water supply.

I soon noticed that those who used water caught in shallow open cisterns or barrels, or water from sluggish springs, ponds or creeks, invariably suffered during the hot months of summer. I repeatedly noticed that individuals who used water from ditches, springs, etc., while off at work, suffered, while the other members of the family who used good water at home were free from malarial fever.

In the hill country adjacent to my home is a large class of small and poor farmers who use water from sluggish springs, situated at the base of hills and surrounded by vegetation. During the dry months of summer these springs stop running, the water oozes into them in quantities sufficient to furnish them but two or three bucketfuls per day. At such times malarial fever develops among them equal almost to an epidemic. This, I think, is unquestionably due to the fact that by the slower percolation of the water through the soil the product of the decomposi-

tion of vegetable matter is collected in their springs in a more concentrated form, or, being longer arrested, gives better opportunity for germ development. Families living among them who use good cistern water are free from this annual visitation of malarial fever.

I noticed that those living in the hills, but who worked in the swamp during the day, who took good drinking water with them, were not noticeably affected, but that those who did not, but used the water of swamp sloughs and bayous, were quickly, and, as a rule, seriously impressed. This was invariably so, it requiring but a few days' or a week's use of such water to produce it. This has been noticed so often that even the negroes provide against its use while working in the swamps.

Wherever I found several members of a family suffering with malarial fever at the same time, or where they were attacked in succession, I always found them using water filled with animalculæ, and often with a putrescent odor.

In the community are a few families who, for no definite reason, are careful in keeping their cisterns cleansed and filled only with the storm water of winter, and to my knoweledge they are never troubled with malarial fever.

From childhood I have been especially careful in using only good drinking water, and although since leaving the University in 1880 I was for more than ten years constantly exposed to the miasma of the swamps—hunting and fishing in them, clearing and cultivating the lowest lands along their border, and often during the hot dry months of summer getting out cypress timber from the lowest sloughs—I was absolutely free from malarial fever. But in 1891 I was compelled, greatly against my wishes, to use water caught during the summer in barrels, also from a small sluggish spring, and in August I was attacked by a most serious spell of malarial fever.

From the above facts but two deductions can be drawn: either the system, by using good water, is put in such condition as to successfully resist the malarial germ, or impure water is a source of infection.

Any one familiar with malarial fever knows that the first is untenable, the latter must be true.

## Proceedings of Societies.

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### ATTAKAPAS MEDICAL ASSOCIATION.

NEW IBERIA, La., Tuesday, May 1, 1894.

The Attakapas Medical Association met in New Iberia on Tuesday, May 1, 1894, at the Conrad Hall, and was called to order by the president, Dr. J. D. Trahan, the following members being present at the meeting: Drs. J. P. Francez, C. Gouaux, W. W. Lessley, Geo. P. Minvielle, Fred J. Mayer, G. W. L. Shaw, Geo. Sabatier, G. A. Shaw, A. R. Trahan, Thos. Hebert, F. E. Artaud, Henry Walet and M. B. Tarleton; also Drs. A. Maguire and A. Dup  rier, honorary members.

The reading of the minutes of the previous meeting was dispensed with.

A motion was made and seconded that Sec. 5 of Art. 2 of the by-laws be amended by the addition of the words "And to issue receipts for the same," after the words "Initiation fees, dues, and all other money." The foregoing motion was adopted.

A motion was made to amend Sec. 3 of Art. 6 of the by-laws by striking out the words "at less than regular fees;" this motion is to come up for discussion at the next regular meeting in December, 1894.

Dr. Mayer made a motion relative to quackery, etc., as follows:

WHEREAS, The evil of quackery is growing progressively worse in the State of Louisiana, owing to the want of proper medical legislation on the subject, which makes it possible for Louisiana to be the dumping ground for charlatans from all other States:

*Resolved*, That it is the sense of the Attakapas Medical Association that in the interest of the public, who should be protected from the aforesaid evils, it becomes the duty of our law makers to create a Board of Medical Examiners. On motion of Dr. Lessley, it was amended by adding the words:

"And be it further resolved, That the Attakapas Medical Association will endorse any bill with that object in view that will be recommended by the majority of the State Medical Society."

The resignations of Drs. F. R. Martin and A. C. Durio were read and accepted.

President J. D. Trahan read an interesting paper on post-

partem hæmorrhage, which was discussed at length by the different members, and was then ordered to be forwarded to the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL for publication.

Dr. Alfred Dupérrier read an exhaustive paper on electro-therapeutics, which he had ably prepared to have read at the Medical Congress that was to have convened in Rome, Italy, in 1893. A vote of thanks was tendered Dr. Dupérrier by the association, and it was unanimously agreed that a committee of three, consisting of Drs. W. W. Lessley, F. J. Mayer and M. B. Tarleton, attend to the publication of the paper, in pamphlet form, for distribution among the members. The association invited Dr. Dupérrier to read any interesting matter on the subject of electro-therapeutics that he might have at future meetings.

A motion was carried that the rules be suspended, and that the application of Dr. Polycarp J. Domingues be read and considered, and by unanimous vote he was declared a member of the association, dating from May 1, 1894.

Dr. F. J. Mayer read a paper on "The Infectious Nature of Pulmonary Phthisis," which elicited lengthy discussion, and it was resolved that the resolutions as a whole be adopted, and furthermore, that the paper be forwarded by the secretary for publication in the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

The retiring president, Dr. J. D. Trahan, delivered a most eloquent annual address, for which the most hearty thanks of the association were tendered, as well as for his untiring efforts for the welfare and future progress of the association and medical profession.

The election of officers for the ensuing year resulted as follows: President, Dr. George Sabatier, vice president, Dr. William W. Lessley; secretary and treasurer, Dr. M. B. Tarleton; executive committee, Drs. G. W. K. Shaw, J. P. Francez and George E. Minvielle; annual orator, Dr. T. T. Tarlton.

There being no further business, the association adjourned to convene at Jeanerette, La., on Tuesday, December 4, 1894.

Immediately after adjournment, the members assembled at the Alma House and most earnestly entered into the pleasant duty of satisfying the inner man.

M. B. TARLETON, M. D., *Secretary*.

*Jeanerette, La.*



## PHILADELPHIA ACADEMY OF SURGERY.

Meeting May 7, 1894, Dr. J. Ewing Mears in the chair.  
Dr. John Ashhurst, Jr., M. D., read a paper entitled

## PERSONAL EXPERIENCE IN THE TREATMENT OF STRANGULATED HERNIA.

Looking over my records, I find that I have operated on nineteen cases of strangulated hernia, and, in addition, have operated on two cases of irreducible omental hernia, not strangulated. I have, of course, seen a large number of cases where I have succeeded in reducing the hernia by taxis. I have not kept a list of these, but the number is at least as large, if not larger, than the number of those operated on. While the number of my cases may seem small in comparison with that reported by others, this very fact confirms the view which I have always entertained—that strangulated hernia is a rare affection in Philadelphia, and rarer in this country than in the countries of the old world, England and Ireland particularly. Although the cases are few in number, yet, following the old maxim, "*Observationes non numerandæ sed perpendendæ sunt*," it has seemed to me that it might be worth while to bring them before the academy, so as to introduce the subject for discussion.

Of the nineteen operations for strangulated hernia, fourteen were for inguinal hernia, confirming what every one knows—that inguinal is the most common form of strangulated hernia, and the one that most frequently calls for operation. One of these cases was in a child, operated on at one of my clinics and at once removed by the parents, and the further history of that case I do not know. Of the other thirteen patients ten recovered and three died. The deaths occurred in cases where a fatal termination might have been expected, and were not due to the operation. In one case the hernia had been strangulated for five days, and the patient was a pronounced diabetic. He died of gangrene after the operation, dependent upon the diathetic condition and upon the prolonged strangulation. The second death occurred in a woman of seventy-eight years. The strangulation was very tight, and the bowel was gangrenous at the time of operation. Rupture occurred at the sulcus corresponding to the line of constriction, and death took place from exhaustion in the following twenty-four hours. The third death occurred in a man of intemperate habits, who had a hernia strangulated for thirty hours and who had been subjected to forcible taxis before admission to the hospital. So forcible had been the taxis that it had resulted in rupture of the bowel in two places. At the operation the

scrotum was found enormously swollen and black from effused blood. Twelve inches of the bowel were gangrenous, and the gut presented two openings. I removed the bowel and performed a circular enterorrhaphy, but the patient died thirty-two hours afterward from cardiac failure, without evidences of peritonitis. It is evident that in none of these cases was the result in any way due to the operation.

Four times have I operated for strangulated femoral hernia, with three recoveries and one death. In the fatal case the patient died in a collapsed condition thirty-six hours after the operation. I have no particulars of the case, but there was no evidence of peritonitis.

I have had one case of strangulated umbilical hernia which terminated fatally. The patient was 80 years of age, and the strangulation had existed for a number of hours. The patient died of peritonitis, which, as we all know, is particularly apt to occur as a complication after umbilical hernia, incisions into the upper portion of the abdomen being more apt to be followed by peritonitis than incisions in the lower portion.

The youngest patient on whom I have operated was a child 2 years of age, with inguinal hernia. This case ended in recovery. The oldest patient was the woman 80 years old, with umbilical hernia, just referred to.

Among cases of special interest I would mention one of the inguino-crural variety, where the hernia after coming down through the inguinal canal does not pass into the scrotum, but turns up in the line of Poupart's ligament and passes outward along the groin. It is usually complicated, as it was in this case, with an undescended testicle. In this case the hernia had been down six days when I operated. I was able by taxis to reduce a portion of the tumor, but finding that there still remained a hard mass which could not be reduced, I thought it right to open the sac and determine the exact condition. I found that the hard lump was the testicle in a gangrenous state, either from a twist in the cord or, as seemed more probable, from the taxis which had been practised rather violently before the patient's admission to the hospital. I excised the testicle and the patient recovered.

I have operated in two cases of irreducible omental hernia. In these cases a tumor had been present in the tunica vaginalis for a long time, and while there were no symptoms of strangulation the weight and bulk of the tumor gave great annoyance, and the patients were exposed to the risk of a portion of the gut coming down at any time. I therefore felt justified in operating in these cases, cutting away most of the omentum after securing its neck between two ligatures.

The points of special interest in the treatment of strangulated hernia which I would suggest for discussion are, as regards the resort to taxis, its limitations and the aids to its performance, and then as regards operative treatment, the particular mode of performing the operation, more especially as regards the direction of the deep incision, in regard to which some difference of opinion prevails, and as to the advantages and disadvantages of Gay's method as modified by Fergusson, and as to the advantages or disadvantages of Petit's plan of operating without opening the sac.

*The limitations of taxis.* I feel obliged to say that while I have reduced a good many strangulated hernias by taxis, while I think that it should be the surgeon's first thought, and while if practised with care and skill it is a safe method and one which will usually succeed when resorted to in time, yet I must express my belief that in the hands of an inexperienced practitioner, who sees but few cases of hernia, taxis is an unsafe procedure. Under such circumstances, I think that the patient would sometimes be safer with the operation of herniotomy than with taxis, for herniotomy is not a very difficult operation and not very dangerous if performed with caution, whereas taxis, while seeming to be very simple, yet if employed with great persistence and force may lead to the most serious consequences. My own cases of herniotomy which resulted fatally had been mostly subjected to prolonged taxis. Taxis, therefore, I think has its limitations, and should be resorted to with great gentleness and with great caution, except in the hands of those surgeons who are sufficiently familiar with the anatomy and treatment of strangulated hernia to feel that they may use the method more freely and more systematically. It is, of course, known to the Fellows of the Academy that its founder, the late Professor S. D. Gross, maintained that very few cases of hernia required operation. He prided himself that he was able to effect reduction by taxis where others had failed; and such was undoubtedly the case. In the hands of a man like Professor Gross, taxis was a safe procedure, but in the hands of the ordinary practitioner I believe that the line of safety for the patient will often be found in herniotomy rather than in prolongation of taxis.

It is scarcely necessary to say that when taxis is employed it should be done with gentleness and with system. The ordinary method of pushing at the hernia is very uncertain, and is not only apt to do harm but is almost sure not to do good. The rule that the last portion of the bowel which has come down should be first returned is very valuable and should always be borne in mind. Then I find what I am

in the habit of speaking of, to students as a kind of conjoined manipulation, a very useful mode of applying taxis, and I think the safest. The neck of the sac is grasped by the thumb and fingers of one hand, while the other hand, spread out, exercises a combination of pushing and squeezing; and then by a kind of alternating movement, slightly relaxing one hand while with the other the pressure is increased, if the hernia is reducible at all, it will go up. If no gurgling is heard in a few minutes it is not likely that taxis will succeed.

As regards the *aids to taxis*, the older surgeons resorted to many modes of assisting taxis, but in modern times surgeons have pretty much come down to two or three. Even the warm bath, which was much resorted to formerly, I think is seldom employed at present. At the Pennsylvania Hospital, our practice is to put the patient in bed, apply ice over the hernia, and give a moderate quantity of opium. When the resident physician is not able to reduce the hernia by gentle taxis, this course is followed until the surgeon has been summoned. It often happens that when the surgeon arrives he finds that the hernia has been reduced spontaneously or disappears under the slightest touch. If this fails, our rule is to administer ether and again employ taxis, and in this way the hernia can usually be reduced. Before administering ether we have an understanding with the patient that if taxis does not succeed then the operation is to be resorted to.

Another manipulation which is of great importance is to draw down the hernia a little before beginning the upward pushing movement, the object being to disengage the portion of bowel which is nipped by the source of constriction. The plan known as Seutin's I have never seen of avail, and I can hardly conceive of a case where it would be required in which it could be used successfully. This plan consists in endeavoring to introduce the finger or thumb-nail into the constricting ring, which is then stretched; this could be practised only in very thin persons, and where it could be done I think it probable that taxis would succeed without it.

With regard to *herniotomy*, the first question that will have to be decided is the extent of the external incision. Some operators make a large incision, extending over the entire length of the hernial tumor. Others endeavor to effect the operation through a very small incision, as in Gay's method. My own plan is to make the external incision three or four inches in length, and over the neck of the sac. As regards the particular method of making the incision, whether by pinching up the tissues, transfixing and cutting outward, or by cutting down from without, I really think that there is no choice.



My own practice is to employ the latter plan. Having gone through the skin and fascia, the surgeon, of course, takes up the tissues cautiously, dividing them on the director. The next question is whether or not the sac shall be opened. I agree with the English rule, that where it is justifiable to resort to taxis it is proper to endeavor to reduce the hernia without opening the sac. I have often tried to do this, but have been compelled to open the sac, as the constriction has been in its neck. In making the deep incision the tip of the left forefinger should be pressed against the source of constriction and the hernia knife passed flatwise; this is then turned in the proper direction and the deep incision made with a gentle sawing motion, assisted by pressure of the finger below. I am satisfied that the rule of the English surgeons, to make the incision directly upward in inguinal hernia, is the correct one. While in a certain number of cases the surgeon can say this is a direct, or this is an oblique hernia, yet in other cases the relation of the parts is so confused that he can not be absolutely certain which form of hernia he is dealing with. In the one case the internal epigastric artery will be on the inside and in the other on the outside. The safe rule, therefore, is to make the incision directly upward and in the line of the long axis of the body. In femoral hernia the deep incision should be made upward and inward. It is only in this direction that we are safe from doing injury and certain to reach the source of constriction, this being where the falsiform process and Gimbernat's ligament join. The only danger from hæmorrhage when this plan is followed is from an abnormal distribution of the obturator artery. To avoid wounding this, a good plan is to adopt Mr. Erichsen's suggestion to blunt the edge of the hernia knife by rubbing it on the handle of another knife, or, as suggested by Dr. Wyeth, to keep the point of the knife firmly pressed against the pubis.

In umbilical hernia the safe line of incision is in the median line, and directly downward. The operation is apt to be followed by peritonitis under any circumstances; but I think that there is less danger if the incision is made in this way, on the general principle that wounds in the lower portion of the peritoneum are less likely to be followed by peritonitis than those above. In the case on which I operated the hernia was of long standing, but the strangulation was recent, from the protrusion of an additional portion of bowel. There I followed the judicious rule of not attempting to reduce the whole hernia, which would have required an extensive dissection, but simply relieved the strangulation and returned the part recently protruded.

With regard to the method of dealing with the contents of the hernia, I think that all surgeons agree that if the bowel is healthy it should be returned, but that if gangrenous it should be left in the wound and a false anus formed. If a distinct sulcus is found I think that it is a good rule not to reduce the bowel, so that if it should give way the extravasation may be outside of the peritoneal cavity. As regards the omentum, I think that it is a safe rule to cut it away pretty freely. If it is perfectly healthy it is proper to return it, but if there is doubt it is safer to remove it.

With regard to after-treatment, I am sure that the safest mode is not to make any attempt to get the bowels opened. Some surgeons are in the habit of giving a dose of oil immediately after the operation, and some even before the operation; but this seems to me to be injudicious. I put the patient on the use of opium and belladonna for a few days, gradually diminishing the dose, and usually the bowels move spontaneously in five or six days.

The number of cases which I have brought before you is limited, but they represent a sufficient variety to, perhaps, be available for the discussion of some of the points suggested.

#### DISCUSSION.

Dr. John B. Deaver—I can not add anything to what has been said by Dr. Ashhurst. I would ask the experience of the fellows with reference to anastomosis. I believe that anastomosis operations are of value in but few cases of strangulated hernia. I have tried the method more by way of experiment, but the cases have not recovered. In order to do this operation it is necessary to pull down additional bowel. As Dr. Ashhurst suggests, where this sulcus has formed it is better to allow the bowel to remain in the wound or, as I prefer, to cut it away. In hernia the condition of the patient does not warrant the procedure of anastomosis, and even under the most favorable circumstances the operation is anything but satisfactory.

I remember a case of strangulated femoral hernia on which I operated some years ago. The bowel was completely separated, so that I could not find the proximal end through the opening made in exposing the hernia. It was necessary to open the linea alba to find it. There was extravasation of fæces into the peritoneal cavity; here I did an anastomosis, but it was not successful.

I believe that we all agree that it is unwise to move the bowels immediately after the operation for strangulated hernia where the condition of the bowel is questionable and where increased peristalsis would favor rupture.

Dr. J. M. Barton—Dr. Ashhurst has had better fortune with taxis than I have had. One reason is perhaps that I have not spent much time with taxis. I have so often found the bowel in such a doubtful state, even after short strangulation, that I feel much safer, if there is any question as to its condition, to operate at once under antiseptic precautions. In one case the bowel was entirely gangrenous eighteen hours after the violence that produced the strangulation.

As to the advisability of making lateral anastomosis immediately after removing gangrenous bowel, the condition of the patient rarely warrants any prolonged operation, and I think that the rule now is, in intestinal obstruction, irrespective of cause, to do nothing further than establish an artificial anus at the first operation. I have devised an instrument for use in these cases. It is a modification of Dupuytren's enterotome. It can be adjusted in a moment, and is intended to make an intestinal anastomosis, allowing the artificial anus to remain as a safety-valve. Since devising the instrument I have not had a suitable case in which to apply it.

Dr. O. H. Allis—I think that we all agree in what has been said about the use of forcible taxis. I remember an instructive case operated on by Dr. Hearn. It had been sent to the hospital after severe and prolonged taxis had been used. The constricted portion lay in the hernial canal, and he was obliged to cut down on it at that point. It was impossible to pass a grooved director between the constriction and the gut, so firmly had it been wedged. In two other cases I have seen the gut driven back and forced between the peritoneum and some of the layers of the sac, and in that way while the physician felt that he had reduced it he had only masked the trouble and made it more certainly fatal.

With regard to umbilical hernia I would state that I have had there three cases and have never seen such a case die. I should be glad if the Fellows would tell us their experience with umbilical hernia.

Dr. H. R. Wharton—I think that the most difficult point to decide in the treatment of strangulated hernia is the question whether or not to put the bowel back when it shows the marked effect of strangulation. In many cases where there is not absolute sloughing, it is hard to decide whether or not a bowel whose nutrition is much impaired will recover. Within the past ten days I have had a case of femoral hernia where the color of the bowel was very unfavorable. After dividing the stricture I noticed some improvement in the color of the bowel, and I put it back with some misgivings. The patient has progressed satisfactorily without rise in temperature.

Another point that I have observed is that in cases where omentum is present in the hernial sac and prolonged taxis has been employed, the bowel is not in as bad condition as where omentum is not present. I think that the presence of omentum may save the bowel from pressure.

A point which Dr. Ashhurst did not bring out, although I know that he is perfectly familiar with it, is the relative rapidity of the occurrence of dangerous strangulation in inguinal and in femoral hernia. In femoral hernia the strangulation is more dangerous in the same time than in inguinal hernia.

Dr. Richard H. Harte—I would ask Dr. Ashhurst's experience with Littre's hernia. I have seen two cases. One was brought to St. Mary's Hospital after prolonged taxis, and the hernia was supposed to have been reduced. The symptoms did not subside, and when I saw the case the man was dying. At the autopsy it was found that a small portion of bowel had been caught and was strangulated. The second case was seen at the Episcopal Hospital. In this case, too, operation revealed a small portion of the bowel which was caught and strangulated. These cases are apt to be overlooked until rather late symptoms of strangulation make their appearance.

Dr. J. M. Barton—In reply to the question of Dr. Allis, I have had six cases of umbilical hernia and have had the misfortune to lose two. A method of reduction that I have found successful I think is worth alluding to. In these cases the strangulated bowel is invariably in the centre of a mass of omentum. The small knuckle of intestine is at the very base, and any pressure on the surface would be utterly useless. In a case of this kind, seen some time ago, I grasped the abdomen above and below the hernia and lifted the abdominal walls, actually raising the patient from the bed. At the second attempt this proved successful. I have employed the same method in another case with success.

I have had the misfortune to operate by Tait's method within a few weeks. The patient was a woman fifty years of age with well marked symptoms of obstruction. I examined all the openings, but did not find any hernia. I then made an abdominal section and found a small knuckle of bowel in the femoral opening. The extent of bowel caught was not more than three-fourths of an inch. The patient was quite fat, and in order to release it I had to prolong the incision over to the right side. The bowel was gangrenous, and in delivering it infection probably took place, the woman dying forty-eight hours later. There were no marked symptoms of peritonitis. For hernia I should not consider this operation for an instant,



but I did not know the case was one of hernia. After delivering the intestine I put my finger in the femoral opening, and tried to feel it from the outside, but was unable to, owing to the amount of tissue over the femoral opening and the small size of the hernial sac.

Dr. James Collins—I have nothing to add except to mention a little manœuvre which sometimes succeeds after taxis has failed, and that is to put the shoulders on the floor and draw the hips up, making taxis in this position.

The youngest case on which I have operated was a child 2 years old. It got well. My oldest case was 82 years old. I have operated on a number of cases with success, with the exception of a few operated on at the German Hospital. In these cases the strangulation had existed for several days. I would emphasize the necessity of opening the sac. In one case where I opened the intestine, I found, on drawing down the bowel, another band about the intestine. I have seen the same thing in other cases.

Dr. William G. Porter—I would emphasize the point made by Dr. Collins as to the necessity of drawing down the bowel. I have seen two cases where the bowel in the sac was carefully examined and found all right and returned, and was immediately followed by a gush of liquid fæces. My explanation of these cases is that the strangulated portion had returned and a healthy portion of the bowel had come down.

Dr. Samuel Ashhurst—I have seen a case like those referred to by Dr. Harte, and this prejudiced me against the operation without opening the sac. Taxis was employed and the tumor was reduced, but the symptoms did not disappear. The patient died, and at the post mortem there was found a small portion of bowel still retained within the internal ring, not involving the whole lumen.

My experience has been that almost every case of hernia stands by itself. I do not think that I have seen a case which did not present peculiar features. It is this that makes hernia to me one of the most interesting subjects in surgery.

Dr. Thomas R. Nielson—The question whether or not the strangulated bowel shall be returned is a very important and often perplexing one. I have several times been in doubt, but in all cases have returned the bowel after relieving the constriction, drawing down the bowel and searching for perforations, and noting that under bathing with hot water the color of the bowels slowly returns. Another guide is the preservation of the lustre of the peritoneal surface of the bowel. If the lustre is still present it is an evidence that the vitality is not entirely destroyed.

I have had two cases of Littre's hernia or partial strangulation of the bowel. One was in an elderly woman brought to the hospital after five days of the so-called obstruction of the bowel. The patient was practically moribund, but at the earnest solicitation of the patient I operated. The constriction was found at the internal abdominal ring, involving only a portion of the gut. The patient died shortly after the operation. The second case was in a young man with left inguinal hernia. The patient presented a tumor not larger than a large marble, exceedingly tender, with pain at the umbilicus and a tendency to nausea. I operated and found a Littre hernia of the small intestine, and the patient recovered. The possibility of the occurrence of this hernia should not be overlooked.

Dr. J. Ewing Mears—I can report one case of umbilical hernia in which strangulation had existed for forty-eight hours and general peritonitis had supervened. I operated and made an artificial anus, but the patient died within twelve hours.

Dr. O. H. Allis—I think the operation in umbilical hernia is no more dangerous than in femoral or inguinal hernia. Where the constriction has been prolonged, probably any form of hernia means death. From what I have seen of umbilical hernia, I maintain that if it is a favorable case it is as likely to get well as a case of femoral or inguinal hernia.

Dr. John Ashhurst, Jr.—I think that Dr. Deaver is entirely correct in saying that in the majority of cases of strangulated hernia it is not proper to make an anastomosis of the bowel at the time of the herniotomy. Whether we should open the gut or resect a portion of it when gangrene is present I think should be decided by the extent of the gangrene. If there is only a patch, it is sufficient to open the bowel; if a large portion is gangrenous, it is probably safer to remove it. In the majority of cases it is proper only to establish a false anus, which may be subsequently dealt with. The only exception is where the surgeon has reason to fear that the portion of bowel involved is high up in the small intestine, when so much of the bowel would be cut off from exercising its digestive function that the patient would die of inanition, even if he should survive the immediate results of the operation. Under such circumstances, if the patient is in a condition to justify further interference, I think it better to complete the operation by uniting the bowel according to one of the methods suggested. In the case in which I removed twelve inches of the bowel and united the ends by circular enterorrhaphy, no extravasation occurred, and the patient's death did not appear to be due to the operation.

With regard to taxis, I had intended to refer to the view of Mr. Jonathan Hutchinson, a surgeon for whose judgment I

have the greatest respect. It will be remembered that he has recently, in connection with the advocacy of abdominal taxis, as he calls it, in cases of intestinal obstruction, referred to the operation of herniotomy, and has maintained that the statistics of the London hospitals show that the operation is a very dangerous one. Therefore he urges a persistent and systematic resort to taxis. There is no doubt that a surgeon who approaches a case believing that it is never necessary to operate will be more likely to succeed by taxis than one who entertains the view held by many at the present time, that taxis is almost certain to fail, and that it is therefore better to resort at once to herniotomy. The personal equation thus comes into these cases. In connection with this matter, I should like to refer to a case which I recently saw at the Pennsylvania Hospital. An old man, extremely deat and extremely obstinate, was brought to the hospital with a hernia that could not be reduced. The resident physician made a reasonable application of taxis, and failed. Then he put him under treatment with rest, cold and opium, and sent for me. I attempted taxis and failed. The patient positively refused to take ether or to submit to an operation. I then made another trial of taxis, pushing it further than I have ever done before and further than I liked to, and the hernia did at last go up, and the man went out happy the next morning.

As I said before, I have only once operated in umbilical hernia, and in that instance the patient died. It is seldom that operation is required in these cases, taxis almost always being successful. I think that the results of experience show that operation in umbilical hernia is more dangerous than in either inguinal or femoral hernia. I was interested by Dr. Barton's suggestion to aid the taxis in umbilical hernia by lifting the abdominal wall. The same object has been accomplished by Froumüller by applying an exhausted cupping-glass over the hernia, and Dr. Washington has recommended a similar procedure.

Dr. Wharton has referred to the state of the bowel. My rule is to pay a good deal of attention to its color, and I resort to the use of hot water to see if the color returns. The glossiness of the bowel is also of importance. If the bowel retains its natural lustre, it is usually safe to reduce it. If it is dull and lustreless, and still more if the tissues separate under the surgeon's finger, it is not safe to return it.

Reference has been made to the presence of omentum acting as a safeguard against injury to the bowel from taxis. The same thing is found where the sac contains serum. It was a clinical observation of the late Professor Joseph Pancoast, that when he opened a hernial sac and found a quantity of bloody

serum he felt that the patient was going to do well. In such cases the serum serves as a cushion to prevent damage to the hernia from the taxis.

Dr. Collins has referred to taxis with inversion. Before the days of anæsthesia this method was regarded as of great value, but like other "adjuvants to the taxis" is, I think, now seldom resorted to.

Dr. Porter has spoken of the gush of fæces that occurs sometimes when the bowel is reduced. This I believe is due to the sudden "letting on," as it were, of the peristaltic stream, rupture occurring at the sulcus which marks the point of constriction. In all cases, therefore, it is important to make a thorough examination of the bowel, and if a sulcus is found, not to effect reduction of the part which has been constricted.

Reference has been made to the persistence of symptoms after reduction. In such cases I think that it is the generally recognized rule that the sac should be opened and an attempt made to bring the hernia down again. If this can not be done it would be right to extend the incision upward, which I think would be safer than making a median section. The same rule applies where there are symptoms of strangulation and a hernial sac is on exploration found empty.

Dr. Harte and Dr. Neilson have both referred to strangulation of a portion of the calibre of the bowel, often spoken of as Littre's hernia, but more accurately designated as Richter's, Littre's being a hernia of one of the natural diverticula of the gut. These cases are apt to be overlooked, and abdominal section for these partial herniæ has therefore been resorted to, the same operation having also been practised for obturator hernia. In some cases it is impossible to recognize the existence of a hernia, and under such circumstances abdominal section might properly be employed; but where hernia in any particular position is suspected, I think that it will be advisable to open and explore at this position, rather than to begin with abdominal section.

Dr. Wharton has spoken also of the relative dangers of delay in femoral and in inguinal hernia. Femoral hernia will not bear temporizing, and taxis should not be tried with the same persistence as in inguinal hernia.

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The following case is reported by T. Ridgway Barker, M. D., in order to prove the importance, if not absolute necessity, of making a careful and thorough examination of all women pregnant, or supposed to be, before committing ourselves to a positive diagnosis:



A CASE OF ASCITIC DISTENTION OF THE ABDOMEN MISTAKEN  
FOR PREGNANCY.

In June, 1891, I first saw the patient, Mrs. M. N.; she was then 18 years of age, white, mother of two children. There was no history of any miscarriages. Her general health was good, and condition favorable for the development of the product of conception which she believed was present, menstruation having ceased in October of the preceding year. Inquiry elicited the fact that her menstrual flow up to that time had been perfectly regular and unaccompanied by pain. Morning sickness proved very annoying for the first three months, but later passed away.

From inspection, abdominal palpation, and digital vaginal examination, the patient was judged to be some six months pregnant, and the date of confinement set for the early part of August. On July 27 I confined Mrs. N., delivering her of a fine male infant which presented by the vertex.

Labor was accomplished without incident or difficulty, and the lying-in period presented no symptoms suggestive of any organic lesion of the kidney. In fact, it is fair to assume that at that time there did not exist any disease of that excretory organ.

The puerperant's pulse was 72 immediately after delivery, but the temperature was not taken.

I visited Mrs. N. for ten days, when attendance was discontinued, the patient being able to be up and move about her room. Mrs. N. was not seen again by me for over two years, when she called at the dispensary and stated that in the first week in January, 1893, she had suffered from a miscarriage.

The product of conception she passed she presumed was of about three months' gestation. The cause of its expulsion I was unable to determine, but ascribed it to a catarrhal condition of the endometrium.

While carrying the embryo she had a slight flow of blood each month which she imagined was her menstrual flow, though she remarked at the time it was of shorter duration and more scanty than usual.

The patient failed to return on the day specified and was not seen again until March 6 of this year. She stated on presenting herself at the clinic that some months after her last visit to the institution she imagined herself to be in the family-way again and called to see a physician. The doctor, she reported, told her that he believed her view to be correct as to her condition, and that he considered her about four months pregnant, and that her confinement might be expected in December. No vaginal examination was made by him, however,

nor did he palpate the abdomen, but based his diagnosis simply upon the results of inspection of the uncovered ventral region.

The breasts were exposed on this occasion and found to be large, full and globular. The veins were prominent and the areolæ well defined. Milk on pressure, she stated, exuded from the nipples as in former pregnancies. At this time her feet were considerably swollen and the œdema tended to extend up the limbs.

Morning sickness was entirely absent. Leucorrhœa was present, but no remedies were directed toward its treatment. At each monthly period, the patient stated, she had a scanty flow of blood, but thought nothing of it, as she had much the same discharge in former pregnancy. She did not again call on her physician, as she felt no anxiety, having passed through three confinements without difficulty.

When I saw Mrs. N. it was March 6, nearly three months, I learned, after the date of her expected confinement. She was then suffering from nervous prostration incident in a large measure to the worry occasioned by her delayed labor, as she was afraid something was the matter.

Her abdomen, she stated, felt different from what it had ever done before. Inspection of the breasts showed them to present what one might almost say was a condition typical of pregnancy. Even the colostrum exuded on pressure from the orifices of the lactiferous ducts. On inquiry as to whether she felt foetal movements, she replied that she did at times, but very slightly. No bearing-down sensations, however, or pain had been experienced.

A glance at her abdomen showed markedly that it was not as prominent as one would have reason to expect it would be in a multipara at full term.

On request, Mrs. N. consented to lie down on the sofa in the dorso-recumbent position, and as she proceeded to do so I was impressed with the fact that the abdomen at once became flattened and broader. This made me suspicious as to the presence of a foetus, and I at once proceeded to palpate over the region of the supposed pregnant uterus. The abdominal walls were flabby and the intestines were in contact with them in front, but not on the sides. Carrying the examining hand downward toward the pubis I found the uterus wholly within the true pelvic cavity. It seemed about normal in size and there was elicited no sense of tenderness.

Evidently there was no full-term foetus in that woman's abdomen. Having secured the patient's consent to a digital vaginal examination, I proceeded to make the same, subject to the

rules of asepsis. Inspection of the external genitalia presented nothing characteristic. Passing my index finger up the vaginal canal to the cervix, I found it to be elongated, hard and fissured. The os was small and from it could be felt escaping a mucous discharge. A sound was passed into the uterus and its cavity made out to measure some three to three and one-half inches.

Search for shreds of membrane or other products of a late conception failed to be productive of any result. The distention of the abdomen was undoubtedly ascitic and not due to a natural growth of a pregnant uterus.

Further inquiry disclosed the fact that not only had there been for several months œdema of the lower extremities, but also swelling of the face as well. This was especially noticeable about the eyelids.

The urine was passed in large quantities and very frequently. It was of a pale yellow or lemon color; sp. gr. 1010; of acid reaction. No albumin present. Sediment composed of mucus. There had been for many months a gradual, but none the less persistent loss of flesh.

The eyesight was very poor, so much so that the woman could scarcely read the newspapers. A kind of mist, as Mrs. N. expressed it, floated before her eyes. Headache was not a troublesome symptom, nor was any amount of pain referable to the loins made out. Sleep was troubled and the patient not infrequently awoke in a fright.

Inquiry as to the health of her parents brought forth the statement that her father died, under 40 years of age, suddenly in the street, and that he had for some years suffered from dropsy. Her mother was still living and enjoyed the best of health. Mrs. N. had no brothers or sisters. It is not my purpose in this paper to enter into a discussion as to the nature of the kidney lesion, but to lay special stress upon the error in diagnosis, which resulted simply from a failure to appreciate and apply the golden rules of obstetrics governing the diagnosis of pregnancy. Had the first practitioner who saw this woman not limited his examination to the breasts, but extended it to the abdomen and supplemented the same by a digital vaginal one, he would not have fallen into the error of diagnosticating a case of kidney disease with ascites one of pregnancy.

This case is a typical example of a "snap" diagnosis, and only too clearly proves that the thorough way which calls for inspection, palpation, auscultation and digital vaginal examination, though more disagreeable, less brilliant, and tedious, is the only safe and satisfactory one in the long run.

Moreover, we see how little dependence is to be placed

upon the patient's statements as to her subjective symptoms. Mrs. N. unhesitatingly told me that she did feel foetal movements, though they were slight, on the occasion of my first visit, three months after the date fixed for her confinement.

Examination, however, proved her sensations to be purely imaginary. She believed herself pregnant, and, therefore, knowing that she should have "quickened," she believed that she did recognize foetal movements.

While the mistake in diagnosis in this case did not result disastrously, yet it might under some circumstances have been made the basis of a suit for damages.

One may occasionally make some brilliant "snap diagnoses," but he may rest assured disaster will surely follow if this course is pursued for any length of time.

#### DISCUSSION.

Dr. J. M. Da Costa—I recall a remarkable case that occurred a few years ago in a woman who had borne five children. She was convinced that she was pregnant and had made all arrangements for her confinement. She had had many of the symptoms of pregnancy, morning sickness, increase of size and had felt movements. The only unusual feature was that at each month there was a slight discharge of blood. This, as we know, while not common in pregnancy, is not at all rare. Examination showed the abdomen distended to the size of normal pregnancy. The uterus was slightly hypertrophied and three inches in length. It was evident that the distention was due to gas and that she was not pregnant at full term. The woman could not be convinced that this was the case until, under appropriate treatment, the size of the abdomen was reduced.

Dr. James Mitchell—I recall one case which occurred at the Philadelphia Hospital in a single woman who desired that she might become pregnant that she might hold the man responsible. The woman swore that she was pregnant, but to make sure I gave her ether and under the anæsthetic the distention disappeared. The enlargement was due to tympanites, and to distention of the bladder in part.

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#### GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE.

The president, Dr. Thos. A. Ashby, in the chair.

Dr. James M. Craighill read a paper entitled

#### THE EFFECT OF BICYCLE RIDING ON THE FEMALE PELVIC ORGANS.

The very extensive use of the bicycle by both sexes and



the increasing number of female riders naturally causes the medical advisers to inquire into this peculiar sport, and consider as to the advisability of its indulgence, or, like the sewing machine, should it be condemned.

Much has been written in the daily press for and against this form of sport, also some little in the various medical journals of this country and Europe, but I have been unable to find a word relative to the female cyclist after reference to all the medical writings at my disposal.

During the past six or seven years, observations among my own patients, and acquiring as much information as I could collect about other female cyclists, leads me to think that the exercise is very beneficial to them, especially with the improved machines of the present day, and should be encouraged in moderation.

It is needless to say that this form of athletic sport, like any other, can be very much abused; such as overtaxing the muscles by trying to ride hills too steep, riding too far and too fast, not sitting properly on the wheel, and many other ways that might be mentioned. The fad among the male riders at the present time is to have the handle-bars of the machine so low that many of them sit with their bodies at an angle of 45 degrees. While it is obvious this is a very injurious custom in many ways for the male, it would be much worse for the female, and, as far as I know, none of the latter sex have been so foolish as to adopt that position.

Nothing will more rapidly improve that class of anæmic women which every medical man meets in his daily rounds suffering from backache, ovarian pains, leucorrhœa, etc., caused by a general relaxed condition of the pelvic organs, in unison with her general run-down condition, than proper exercise, and it is the custom among physicians to advise women suffering in this way to exercise in the open air, this being regarded as much more likely to do good than the various tonics that are prescribed in such cases. The exercise usually consists of a walk of possibly a mile for the first day or two, but becoming tiresome, is not tried long enough to do good. If our patient is put on a bicycle she soon becomes very enthusiastic and indulges whenever an opportunity presents itself, and if properly instructed, wears loose clothing, with no corsets, sits erect on her wheel exercising every organ and muscle in her body, and as her course naturally leads her out of the city, she gets the benefit of the pure country air, and her exertions make her breathe in much larger quantities than ordinarily, thus purifying the blood and adding health and strength directly to that part of her body to which our attention is directed in

this paper. This is a very different picture from her sister bending over the sewing machine, usually in a close room, with her corsets drawn tightly, crowding all of the abdominal contents down on her pelvic organs, with the subsequent congestion and the many female troubles of which we are all familiar.

Horseback riding is probably the next best exercise to the bicycle, but from a financial as well as gymnastic point of view, also general convenience, the cycle is the best.

Of course there are many conditions of the female organs that would prohibit this exercise which are unnecessary to mention, but any condition that would admit of the equestrian exercise would be much benefited and most troubles in which any kind of self-exertion would be of benefit can for the reasons given be safely prescribed.

It is even customary with some to ride during the menstrual period and apparently with no harm resulting, although the writer of this paper would include riding at that time among the abuses.

A few cases of pregnant women riding have come under my care, and while the number of cases is too small to arrive at any definite conclusions, still it is the writer's opinion if the woman has been accustomed to the exercise before she became in that condition, it will not injure her to continue it with proper care during the first six months of her gestation. A novice would run great risk of doing herself much injury in that condition from the exertion, numerous falls, etc., due to inexperience.

One of my patients, a well developed young woman, had been riding her wheel several years before her marriage, and continued to do so after she had become pregnant and until she was about six months advanced, notwithstanding she had been cautioned by me to desist. Her wheel (at that time the best to be had) was of the solid tire pattern, heavy and hard to propel, and, using no care in straining when riding up hills or over rough roads, she had a right occipito posterior position. After a difficult labor I delivered her with forceps with a resultant badly torn perineum and bowel, which was repaired by a secondary operation. After her recovery she again took to the wheel and is one of the best female cyclists in this city to-day, and has never had the least uterine trouble since that date, now five years ago, although she has had several abortions, which the writer has reason to think were brought on intentionally on her part.

Another patient had been riding a number of years before marriage and continued the exercise regularly up to two months before the birth of her child. She rode a very easy

running wheel with pneumatic tire, and during the last few months was on a tandem wheel with her husband.

My former experience with a pregnant bicyclist caused many misgivings on my part about her riding at all after she became in that condition. She continued to do so after being warned not to pull up hills or exert herself very much at any time. The instructions were obeyed, and her confinement was in every respect normal, with very little pain and one of the easiest labors I ever attended. There has been no subsequent uterine trouble.

The history of the next case was gotten from the husband, as she has never been treated by me.

Mrs. L., age 27, mother of two children, had suffered much from uterine trouble, probably a partial procidentia, with great pain during menstrual period. Before commencing the use of the wheel she had been treated by several physicians for her trouble and had found some relief from a pessary.

She had ridden very little before the birth of her first child and had an extremely difficult labor. When pregnant with her second child she rode up to the fifth month and at her second delivery had just the reverse of her first—an exceedingly easy time of it. During the past seven years she has exercised regularly on her wheel and has had no uterine trouble whatever. While the writer admits this woman may have been cured by becoming a mother, still I am inclined to attribute much of her improved health to the outdoor exercise on her wheel.

I could mention other cases where the patients suffered much from dysmenorrhea until they adopted the wheel for exercise and then suffered very much less during their periods, or were free from pain entirely.

While the few cases I have cited in this brief paper prove very little, still I thought in writing it I might call the attention of the members of this society to the many good effects to be derived from this very attractive sport and health-giving exercise.

WILLIAM S. GARDNER, *Secretary*.

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## Editorial Articles.

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### THE MEETING OF THE STATE MEDICAL SOCIETY.

The closing days of the past month witnessed one of the most interesting and important meetings ever held by the Louisiana State Medical Society. The attendance was very large, and the accession of new members was unprecedented. From a scientific standpoint the last meeting stands out prominently; many valuable and interesting papers were read, and some could only be read by title on account of lack of time. The meeting was throughout marked by a liveliness and vigor that indicated an increased interest in the general professional welfare. When we look back upon the feeble beginning and the early struggles of the society, our joy is all the greater when we see it in its present state of strength and prosperity.

The officers and committees are to be complimented upon the excellent showing just made.

The election of Dr. R. Matas as president, to succeed Dr. A. B. Miles, is a meet tribute to one who has labored unceasingly for the good of the profession, and who fitly represents the progressive element of our fraternity. Under his skilful and energetic guidance the society can only look for a continuance of the prosperity it enjoyed under his predecessor.



The chief feature of the last meeting, as in several previous meetings, was the discussion on the Medical Practice Bill. The prominence which this measure occupies in our deliberations is a fair index of the need of a law regulating medical practice in Louisiana. The history of the failure of a bill to pass on two previous occasions is familiar to all, and need not be reviewed here. At the meeting of 1893 a Committee of One Hundred was appointed to draw up a bill that would satisfy conflicting interests without compromising the dignity of the society. While there were irregularities in the method of framing the bill, still the subsequent action of the society, as a whole, covered any shortcomings on the part of the Committee of One Hundred in regard to the expression of the will of the society on the point in question. No human institutions are absolutely perfect, and we must make allowances in the case of the Medical Practice Bill. When the existence of an evil is recognized, it may not be possible, with the means available, to wipe it out of existence at once. Half a loaf is better than no loaf at all. The bill now before the Legislature will probably be amended. The State Society can only express its approval of a certain measure; the Legislature adopts or amends it as it sees fit. If the bill be made into a law, it will be an entering wedge. When the public has experienced only a small portion of the benefits that flow from such a law, we do not think that there will be much trouble in securing the passage of as perfect a bill as could be framed.

The matter now stands thus: a bill has been introduced into the Legislature, which has been endorsed, with certain amendments, by the State Medical Society, and by it recommended for passage. Before reaching this point, the society witnessed one of the fiercest parliamentary contests in its history. The battle was long and well fought. Every part of the bill was dissected and acted upon, and at every step the advocates and the opponents of the various sections were given ample opportunity to express their sentiments. With a few amendments the society adopted the bill presented by the chairman of the Committee of One Hundred.

The bill, then, expresses the will of the majority. It is

proper for the minority, which had a good hearing, to acquiesce and work in the interests of the bill, or, at any rate, refrain from opposing it. Opposition to the bill on the part of members of the State Society at this stage of the proceedings would mean inevitable defeat, and would cause another postponement of two years before it would be possible to realize any hopes for medical legislation.

Now that the will of the Society is known, the profession should stand shoulder to shoulder and work unitedly for the bill that has received the official endorsement of the Society. If there are any irreconcilables we hope that they will not allow their personal feelings to outweigh their sense of duty to the profession at large. Defection from the ranks at this critical stage would bring disaster to the medical legislation, and would cause the profession to be lowered in the eyes of the people on account of its inability to regulate its own affairs.

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#### THE NEW ORLEANS SANITARIUM.

The increase in size and general importance of New Orleans as a city has been accompanied by an increase in the institutions and facilities that make it a desirable centre for medical instruction and attention. The youngest of these institutions is the New Orleans Sanitarium, the need for which had long been felt in our city and the surrounding country. It is an institution for and by physicians chiefly, and it is gratifying to learn that the profession in general has learned to appreciate its value, as its prosperous condition attests. The patients received at the sanitarium are nearly always sent by physicians outside, who desire their patients to have comforts and skilful nursing that can not usually be obtained at private residences. The Training School for Nurses, while a separate institution, is almost inseparably attached to the Sanitarium, at which the nurses obtain their practical training. The valuable services which these ladies have rendered among the sick outside of the Sanitarium have firmly established them in the esteem of medical men, who, in dangerous and important cases, absolutely require the aid of some reliable person to carry out details of treatment.

When a physician sends a patient to the Sanitarium he need have no fear as to his patient's care during his absence, for a resident physician is on the premises to attend to unforeseen emergencies and a corps of skilled nurses is always on hand to lend their aid.

The present quarters are too small for the constantly increasing number of patients. The new building, to which some improvements are to be added, is more centrally located, and will, when finished, be quite an ornament to the city.

The Sanitarium has passed through its probationary period, and has demonstrated its value and necessity to the profession. Its growing prosperity shows that medical men have come to recognize its importance, and they will no doubt see to it that so deserving an institution shall not be allowed to languish for lack of patronage.

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## Abstracts, Extracts and Annotations.

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### SURGERY.

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#### FACIAL ERYSIPELAS—TREATED WITH EXTERNAL APPLICATIONS OF GUAIACOL.

A review of the latest literature on erysipelas reveals, on the whole, a very unsatisfactory state as regards the treatment, and marked discrepancies exist in the writings of different authors on the subject. On this account I wish to place before you some observations based on a personal experience with this disease, treated by the external application of guaiacol.

*Etiology.*—Dr. J. M. Anders, of Pennsylvania, gives elaborate statistics to prove that debilitating diseases greatly predispose to this disease. The primary cause is the streptococcus erysipelatosus discovered by Fehleisen. Jordan is of the opinion that the specificity of Fehleisen's erysipelococcus is questionable, and that its identity with the streptococcus pyogenes is probable. He has studied this subject carefully with reference to this question, and has drawn from his observation the conclusion: That erysipelas is etiologically not a specific disease; that, as a rule, it is caused by the strepto-

coccus pyogenes, but that it may be provoked also by the staphylococcus pyogenes aureus.

These cocci, which are so nearly identical with the streptococcus pyogenes, are found chiefly in and spread along the capillary lymphatics of the skin. Recklinghausen and Lukowsky found them in the lymphatic vessels and connective tissue spaces in the structure affected by erysipelas. Fehleisen found cocci in chains constantly present in bits of skin excised from the spreading edge of an erysipelas rash; they lay in the lymphatics chiefly of the superficial part of the corium, never in blood vessels, and only exceptionally in the connective tissue spaces, or in the immediate vicinity of blood vessels.

Erysipelas spreads along the superficial lymphatics, but not necessarily in the direction of the lymph current, which may be temporarily arrested by blocking of the interior of the lymphatics with cocci. As this microbe is non-motile, its transportation in a direction opposite the lymph current can only occur by reproduction.

In the facial form, when no wound is visible, it is probable that infection takes place through some small abrasion, though auto-infection may possibly occur, the organism having been previously absorbed through the respiratory or digestive tract. This, however, seems improbable.

As an addition to our knowledge of the effects of guaiacol in the treatment of this disease, I hope that the following may be of interest:

CASE I.—J. E. S., age 30. I saw the patient November 8. He complained of having had tonsillitis two weeks previously, but he had not regained his strength. Three days before I saw him he began to suffer from headache and appeared to have fever in the afternoon. When first seen by me he was suffering from nausea, headache and constipation. He had a severe chill the preceding day. I found the temperature 103.5 degrees F., pulse 100. I noticed a slight red blush near the lachrymal duct which had every appearance of the beginning of facial erysipelas.

I ordered pure guaiacol applied to the affected area and for some distance beyond, in the hope of preventing further extension. The following day the patient claimed that he had experienced instantaneous relief from the application, that his headache shortly afterward disappeared and the fever gradually subsided, so that he was able to sleep for the first time in four nights.

His appearance, however, was much worse than on the preceding day. The rash had spread laterally to the ears, and had extended over the forehead to the border of the scalp.



The eyes were completely closed from œdema caused by escape of inflammatory exudate into the loose cellular tissue in this region. There was considerable delirium. At 10 A. M. temperature 104 deg. F., pulse 100. Again applied guaiacol with the same satisfaction as before. The nurse found it necessary in this case to make three applications daily for the next four days.

Three hours after the application of the guaiacol, the temperature was 97.5 deg.; at 5 P. M., 100.5 deg. F.

November 11, temperature, 10 A. M., 99 deg. F.; 5 P. M., 100 deg. F.

November 12, temperature, 10 A. M., 98.8 deg. F.; 5 P. M., 99.5 deg. F.

November 13, temperature, 10 A. M., 98.6 deg. F.; 5 P. M., 99 deg. F. Patient discharged cured.

CASE 2.—I was called December 16 to see Mrs. S., mother of preceding patient. Had several previous attacks of erysipelas. At the time of my visit she had a temperature of 104.5 deg. F. Complained of intense headache, dry burning skin and constipation. The rash had extended over the entire face, ears and forehead. Bullæ had formed in the ears. I applied the guaiacol as in the preceding case with marked relief of the symptoms. At 1 P. M. temperature 102 deg. F. At 3 P. M. temperature 101 deg. F. At 5 P. M., 103 deg. F. Again painted the face, when the fever gradually receded to 101 deg. F. At 8 P. M., December 17, temperature 101 deg. F., pulse 98. Urine scant and contained albumen. Guaiacol was applied once a day for the four succeeding days.

December 18, temperature 101 deg. F., pulse 96. Albumen still present.

December 19, temperature 100.5 deg. F., pulse 110.

December 20, temperature 100.8 deg. F., pulse 106.

December 21, temperature 99 deg. F., pulse 80. Trace only of albumen found in urine. Patient made a slow recovery.

CASE 3.—Mrs. H., age 27; eruption limited to the face. Bullæ had formed on the cheeks; considerable œdema about the eyes. Patient was slightly delirious. At 9 A. M., temperature 103 deg. F., pulse 100; ordered pure guaiacol painted over the face. At 12 M., temperature 100 deg. F. At 2 P. M., 99.5 deg. At 5 P. M., 100.5 deg. At 8 P. M., 101 deg. F., when the nurse was obliged to paint the face again. Guaiacol was applied twice a day for the five following days. Temperature ranged from 99.5 to 101.5 deg. F., when convalescence was established. No albumen found in the urine on repeated examinations. Patient was discharged cured on the sixth day.

Another case illustrates even more clearly the good effect of this drug:

I was called February 15 to see Mrs. F., age 40 years. I found that she had an erysipelatous rash covering the entire face, ears and forehead. Bullæ had formed on the cheeks and upper lip. Her temperature was 103 deg. F., pulse 120; dry brown tongue, teeth covered with sordes, bowels constipated; had two chills previous to my visit. Ordered hydrargyri chloridum mite and sodii bicarbonas, aa gr. 5 morning and evening for the bowels; and painted the face with pure guaiacol, from which the patient experienced marked relief. On the following day at the time of my visit the patient was having a decided chill. I at once applied guaiacol and immediately the chill began growing less intense and within five minutes it entirely ceased. This treatment was repeated on subsequent occasions with the same happy results; each chill being aborted by the guaiacol applied externally over the affected surface. February 18, patient had been delirious the previous night. Temperature 103 degrees F., was reduced in one hour to 101 degrees F. by guaiacol, applied externally.

February 19, temperature 101 degrees F.

February 20, temperature 98 degrees F.

February 21, temperature 99 degrees F. Convalescence now seemed established and progressed rapidly, much faster than is usual in such cases.

Dr. J. E. Rhodes has kindly permitted me to mention a case similarly treated by him, in which the facial erysipelas followed an intense inflammation of the nasal mucous membrane. The temperature, which reached 105.2 deg. F., was promptly reduced. On one occasion profuse perspiration and marked alleviation of the symptoms immediately followed the application. This case ran its course in one week.

The chief points of interest in these cases are:

1. The short time that elapsed between the application and the resulting relief.
2. Repeated trials on the fourth case showed that a chill could be aborted by the external application of guaiacol.
3. Except in cases of extreme irritability of the skin, the application of pure guaiacol does not cause pain. In such cases the guaiacol may be diluted with alcohol, olive or any of the fixed oils to the desired strength.
4. The amount of guaiacol employed varied from 20 to 30 minims.
5. As might be expected, such a powerful effect was not without its drawbacks. In two cases I found a subnormal temperature. These figures suggest their own caution.

The action of guaiacol in controlling chills and fever, as in Case 4, I am inclined to believe is due to an anæsthetic action

on peripheral nerve endings. Absorption by a skin the seat of inflammatory changes is necessarily slow, and could not account for the immediate fall of temperature noticed in these cases. Experiments have demonstrated that the temperature is not affected in animals, if the site of the application is previously anæsthetized. Guinard bathed the hind limbs of two rabbits with guaiacol; in one, the sciatic nerve was cut four days before. Here the application caused no fall in temperature, while with the rabbit with nerves intact the same fall was observed as before.

The same author, in the *Province Medicale* of February 17, states: That if the parts are enveloped after the application, in two or three hours guaiacol may be found in the urine; and has drawn the following conclusion from his experiments: That guaiacol can penetrate through the epidermis; that this penetration appears to be the result of an absorption of the vapor; that the envelopment of the painted regions—thus keeping the vapor in contact with the skin—increases the proportion of guaiacol in the urine.

Dr. E. F. Ingals informs me that after my report to him of the beneficial effects of guaiacol in erysipelas, he applied it in two cases of erysipelatous inflammation of the face, associated with rhinitis; and in both cases succeeded in reducing the inflammation speedily.

I have for six months been using guaiacol locally to relieve the dermatitis of the arm, following vaccination, in which I found marked constitutional symptoms. These were generally relieved by one or two applications of 15 or 20 minims.

In regard to its action on the course of the disease, I am not prepared to state positively. In all cases convalescence began not later than the sixth day, although the disease was very extensive in three cases. Albumen was found in the urine of only one patient. Delirium was present in two cases. I am therefore inclined to believe that convalescence was somewhat hastened in all these cases.

After having treated numerous cases by the various methods advocated by different authors, I believe guaiacol to be the most efficient therapeutic agent that we possess at the present time. It is certainly preferable to any of the so-called antipyretics and anodynes usually used to reduce fever or to control pain.—*Four. Am. Med. Asso.*

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#### TREATMENT OF ACUTE URETHRITIS.

In the first or increasing stage of an acute urethritis, whether specific or otherwise, among the many plans of treat

ment there is the well-known one of increasing the amount of urine voided and conjointly with this rendering it alkaline. During this stage we have marked urethral symptoms, as ardor urinæ, chordee, etc. The following formula is much used in the service of Prof. Neilson, and I can say from a somewhat extended clinical experience with it that it almost always accomplishes the object aimed at—namely, affecting the urine so that the urethral symptoms of the early stage of an acute urethritis are much modified :

R Potassii acetatis.....	3iij.
Potassii bromidi.....	3iss.
Acidi borici.....	3ij ʒij.
Tr. belladonnæ.....	3ss.
Sig. potassii citratis, qs. ad.....	3viii.
M. S. A teaspoonful in a goblet of water three or four times a day.	

In giving your directions to the patient it is important that he understands he is to take a liberal quantity of water with his medicine and I think the remedy is better taken about two hours after meals.

The potash salts can be presented in such doses as the physician thinks best meets the immediate case. The boracic acid renders the urine to a degree antiseptic, and I have never seen it produce any depression in the above dose—ten grains. The dose of belladonna seems to have a soothing influence on the mucous membrane. The formula given above is not original in any way, and is only given as a combination, very effective in a large clinical service.—*Dr. Lindsay, in Philadelphia Polyclinic.—Medical and Surgical Reporter.*

## REPEATED OPERATION FOR MALIGNANT DISEASE.

By JNO. BOICE, M. D., Professor Surgery Gross Medical College, Denver, Col.

It has often occurred to me that we do not, many times, do all we might for patients presenting themselves to us with recurrent malignant diseases; that we are too prone to satisfy ourselves by saying it is too late to do anything, simply because we do not see any way by which we may obtain permanent curative results. It appears to me we might oftentimes do much, and the following report of a case will go to show the value of repeated operations in this class of cases, not only as regards the comfort of the patient but in the prolongation of life.

On August 2, 1890, Mrs. D., of this city, a widow, thirty-two years of age with three young children, came to me with the following history:

In the summer of 1887, while she was still living in the East, she first noticed a lump in her right breast. Fearing some



malignant trouble she at once consulted her family physician, who quieted her fears and advised (fatal advice) her to pay no attention to it until it began to pain. In September of the following year, while visiting a sister in San Francisco, she consulted a surgeon, who immediately recognizing the trouble advised its removal, which advice was acted upon, and about the first of October the breast was amputated. She had been entirely free from any signs of recurrence up to four or five weeks previous to the time she came to consult me. Upon examination I found a deep, foul-smelling ulcer about two inches in diameter, the centre of which was in the line of the cicatrix and a little outside of where the nipple would normally be. The case certainly looked hopeless so far as the local condition was concerned, but she showed no signs of cancerous cachexy and claimed to be in perfect health so far as her feelings would indicate, and begged me to relieve her of the intolerable smell which was making her life miserable and keeping her away from her friends.

On August 9, assisted by Dr. McNeil and Mr. Freeman, a then medical student, I removed the ulcer along with the whole of the original cicatrix and the pectoralis major and minor muscles as far as the border of the axilla, completely exposing the ribs. I then continued the incision into the axilla and carefully emptied it of its contents. The very large open wound I covered with skin-grafts, and she made an uninterrupted recovery. After this she went about her social and other duties, thoroughly enjoying herself until July of the following year, when she came to me with a little, round ulcer not a quarter of an inch in diameter immediately in front of the axilla. I did not like the feeling of induration around and underneath the ulcer and advised her to let me cut it out. On August 4, assisted by Dr. R. W. Worthington (since deceased) I proceeded to do this, and found a much more formidable operation than I anticipated, as I again had to open up the axilla and in order to remove all the evidently diseased tissues had to ligate and remove a small portion of the axillary vein. She made a good recovery after this operation and took her place again in her family and her social world the same as before. From this time she apparently enjoyed perfect health until some time in November, 1892, when she began to complain of pain in her hand, accompanied by considerable swelling.

The pain continued to increase until it became unbearable and the swelling to extend until the whole arm was more than twice its natural size and began to look as if gangrene would soon be the result. On January 28 of last year, assisted by Dr. T. H. Hawkins and Dr. Baker, I amputated the arm at

the shoulder joint, at the same time I dissected out all the tissues in the neighborhood of the shoulder between the integument and the ribs as high as the clavicle. She made a good and reasonably rapid recovery after this very severe operation and has been in fairly good health ever since. It will be seen by the above that my patient, who had been refused an operation by several good men at the time I first saw her, and told to go home and quietly wait for death, is still alive and enjoying herself. My judgment and experience told me at that time that if nothing were done her days on earth would probably be very few, and yet, after three years and a half she is alive and apparently in as good health as she was the first time I saw her. Another thing to be considered is the fact that her children have for this much longer time had the benefit of their mother's loving care and attention during the most critical period of their lives.—*Denver Med. Times.*

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#### ODD METHODS OF SYPHILITIC INOCULATION.

By WILLIAM JUDKINS, M. D., Cincinnati, O.

The first week in December, 1892, Mr. B. called at my office with what he stated was a broken pimple in his scalp.

Examination revealed an abrasion with edges that might be termed sloping, though quite superficial; some thickening, with some redness of the adjacent tissue present. The patch, which could be covered with a three cent silver piece, was situated on a line with the occipital protuberance half way between that point and the ear. Left side a slight discharge was present.

The gentleman was a "high liver," widower, American by birth, journalist by occupation.

Inquiry brought out the fact that the day following the November election (he having celebrated that event quite extensively) he spent the major part of the time in a Turkish bath. Later in the day he visited, as he supposed, a first-class barber, where he had his hair cut with what is known as "clippers," a substitute for scissors, which has for its chief recommendation a saving in time.

He stated that he remembered the barber "jabbing" him at about the point of soreness, but, from his condition, gave it no special attention.

From the general appearance of the sore at this visit, and as I was loath to believe it was syphilitic—but subsequent events have proven such to be the case—a guarded prognosis was given.

At this point mention might be made of another case that came under my care, late in the attack, some nine years ago, who was inoculated through the hand of a barber with the papular eruption of the palms. The lesion in this case was located in the eyebrow. The case was under treatment some three years, and as twice that length of time has elapsed since his discharge and no symptoms calling for treatment have been seen, or any indications of constitutional trouble in two children born in the last five years, I feel safe in pronouncing him cured.

The first case, that of the scalp, is progressing as well as this class of cases could be expected; for a week or two he is quite religious in the attention he gives himself, when he will feel better, become negligent regarding his welfare, indulge his appetite and consequently relapse.

I report this case not so much from its novelty as to the mode of the introduction of the poison, but to add another case to the few on record going to prove the scalp as not proof against infection, as Ricord at one time held, but who acknowledged his error before his death, as well that we as sanitarians should warn our patients against the use of this villainous instrument that is daily brought into use.

To me the case was one of great interest, as for some time it has been my belief that harm could be done by the use of this "clipper."

Some five years ago I was a witness to the fact of the same being used on a head and neck liberally dotted with the characteristic danger signals. No aseptic precautions were taken after use to prevent inoculating the next one coming under that barber's charge. Whether harm was done or not, I can not say. Certain it is, that in the case reported such a result was had. A syphilitic with the eruption of the scalp had had the clippers used, who was followed by a dissipated but non-syphilitic subject that through the carelessness of the barber became an easy victim.

In this connection it is interesting to note "that the government of the Republic of Columbia has, in view of the possibility of contagious diseases, such as ringworm, favus and syphilis, being transmitted by combs, brushes, etc., passed an enactment making it compulsory for all barbers and hairdressers to keep the instruments of their art clean, and to disinfect them every time they have been used. A notice to this effect is to be posted up in all tonsorial establishments."—*Record*.

In proportion these diseases are no worse there than here. Why, then, can we not have the same law enacted here, there—

by saving untold misery to the present and future generations? The "syphilis of innocents," as spoken of by Bulkley, will be much less frequent."—*Cincinnati Med. Journal*.

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## ELECTRICITY IN THE TREATMENT OF CHRONIC PROSTATITIS AND OTHER CONDITIONS UNDERLYING IMPOTENCE IN MEN.

BY G. BETTON MASSEY, M. D., PHILADELPHIA.

The several forms of electricity have been quite generally accorded an honorable position by many writers on male impotence, yet the value of the remedy has seemed of late but little appreciated by the workers in this department. A survey of the literature of the subject has convinced me that the following causes have mainly contributed to this recent neglect of a most valuable adjunct to the work of the genito-urinary specialist:

First, the new methods of electrical application which have attracted such universal attention in the diseases of women have not been generally applied to men. The age of accuracy in electro-therapeutics appeared only about eight years ago, while nearly all of our literature on genito-urinary electro-therapeutics is much older. No Apostoli has thus far appeared to guide us to the great truths undoubtedly hidden in the possibilities of electric energy scientifically applied to the prostate, seminal vesicles, vas deferens, and testicles—the analogues of the uterus, tubes, and ovaries. The fault of the older work was its inaccuracy of dosage and uncontrollability—two faults that are fatal to scientific results except by accident.

The meter and controller are as essential in this work as in the diseases of women; without them applications of electricity in either class of affections are like using a powerful drug without weighing or measuring it.

A second, and probably a more important reason for lack of advancement in the genito-urinary electro-therapeutics of the male, is the surgical air and infection of the day, which leads the physician to look for stricture rather than glandular, muscular, or nervous disease. The late S. W. Gross, for instance, judging from his work on the subject, looked for a stricture in every case of impotence, and if one could not be induced to appear in the deeper parts of the urethra by the irritation of abnormally large sounds or bulbous probes, he remorselessly divided the inoffending meatus itself, whose only fault could have been to act as a barrier to useless and possibly harmful stretching of the important structures deeper down. If



a narrow meatus is a cause of impotence the small mouths of the reigning belles of society must as surely indicate dyspepsia.

This extreme view is, I believe, held by few at present, yet the practice of too many specialists ends and begins within the urethra, even prostatitis being regarded as a stricture of the prostatic urethra, and its treatment confined to repeated dilatation, or more heroic measures that look mainly towards maintaining a really abnormal calibre in this tube.

Far more information can be gained of the condition of the prostate by the rectal touch than by these explorations of the urethra, and I am inclined to think that the male urethra has been about as much abused in this way as the uterus was some years ago by rigid sounds and stems. The recent enormous increase in the expertness of the gynecological finger, within the vagina and rectum, particularly when combined with bimanual palpation, point to a largely unused means of information in male diseases, by which the many abnormal conditions of the prostate, the vesicles and the ducts may be explored by the rectum. The same avenue is peculiarly well adapted to the interpolar and modified polar applications of electricity, the insensitiveness of the rectum permitting really enormous current strengths being passed through the diseased parts. The intra-urethral exploration and treatment will, of course, be requisite in many cases, the length of the canal and the difficulty of maintaining its calibre being both unique as compared with the female urethra. The possibility of ocular inspection of ulcerated surfaces by means of the endoscope will also lend importance to intra-urethral manipulation, but the diseases under consideration—prostatitis and other forms of impotence—entirely too much dependence has been placed on this method of examination and treatment.

Chronic prostatitis is unquestionably a microbic invasion of the glandular substance of this sexual organ. An increased secretion accompanies the earlier stages, but later the chief evidence of the trouble is shown in an increased bulk due to parenchymatous enlargement, analogous to what occurs in chronic metritis. Accompanying this catarrhal inflammation of the gland there will be found certain functional derangements of varied character, in accordance with the existing condition of the nervous apparatus. Where no sexual excesses have contrived to or accompanied the condition, I have seen complete retention of potency by an enlarged prostate. Usually, however, the catarrhal prostatitis seems to be aggravated by sexual indulgence; and I do not doubt but many cases in young and middle-aged men are caused by sexual excesses, the irritated organ being a read-made culture medium for stray

microbes. The latter stages of this catarrhal prostatitis will be found to be accompanied by a catarrhal invasion and distention of the seminal vesicles, which further compromises the functional soundness of the parts. Epididymitis and orchitis may also result, but when they occur are more easily recognized than similar conditions of the internal organs.

I doubt whether simple functional abuse can create these conditions. The most profound nervous or psychic impotence may exist with all the pelvic organs of man in an apparently normal condition. If, however, these chronic catarrhal and parenchymatous inflammations of the pelvic organs be permitted to remain for some months or years, the neuro-muscular derangement is sure to follow. The incapacity for proper functionation on the part of the prostate and vesicles reacts negatively on the spinal centres. Imperfect functionation acts positively upon them; and we sooner or later have a genito-spinal neurosis developed, which turns a pelvic disease into a spinal one.

The field of electricity in these several conditions is peculiarly apparent to the physician familiar with its recent applications in the diseases of women. As a remedy for a chronic catarrhal inflammation of a gland there is nothing superior to the local action of the galvanic current. The negative pole may be applied to the prostatic urethra by the means of Newman's olive-pointed sounds, properly insulated, or in old men by converting a prostatic-curved silver catheter into an electrode by covering it with fused shillas or hard rubber, except a small space back of the eye. This latter is useful in accurately indicating the neck of the bladder by the flow of urine. The positive pole is, however, best when small currents of five to twenty milliampères are to be used, and it is best applied by converting a linen or red rubber catheter into an electrode by winding No. 30 platinum wire around the end, back of the eye, until a half-inch surface is made, the end of the wire being carried through the wall of the catheter and brought out through the tube to make the conducting cord. The outer end remains as a knot within the tube. Such an electrode, an adaptation of Martin's uterine electrode, is extremely convenient and easily cleansed when the basis is the red rubber catheter. If the application is continuous for three or five minutes five to eight milliampères are sufficient. If, on the other hand, my own method of swelling currents be used as much as thirty or forty milliampères may be safely employed in skilled hands, the small time during which the current acts preventing much irritation from electrolysis.

This intra-urethral application of electricity may be ex-

ceedingly mild or violent, in accordance with the skill and judgment of the operator. None but a specialist should employ the method, and it is practically criminal for one to use it without a meter. The applications should rarely be made oftener than once a week. They are indicated only when prostaticorrhea or spermatorrhea is present, when the urethra is obstructed by the growth of the prostate, or when the organ is manifestly enlarged. In either of these conditions it is as valuable as is the Apostoli method in chronic metritis or fibroid tumors of the uterus, conditions closely analogous to those under consideration.

The insertion of an electrode into the urethra is never warrantable for the purpose of applying faradic currents, which are equally well directed to the same parts through the rectal wall.

Rectal applications of the galvanic current are usually sufficient for most cases of deranged functionation and incipient enlargements of the prostate. The active electrode is an olive-shaped ball, about the size of the end of the index finger mounted on an insulated staff. This is pressed against the under surface of the gland. In order that the bulk of the current from this may penetrate the prostate and its neighboring structures, the indifferent pole must be on the abdomen, and fully as large and as good a conductor as that used in the Apostoli method. The effects of currents of forty and sixty milliamperes thus applied by the swelling method is but slightly unpleasant, and their power to cause absorption of effused and adventitious material and promote healthful contractions of unstriated muscle is very great. In one case, where a cystic accumulation within the left seminal vesicle had been discovered by the rectal touch, a two weeks' continuance of the method had promoted such absorption and resolution of inflammatory products as to permit the vesicle to empty itself. A profuse, clear discharge was mentioned by the patient as having occurred in the morning when this happened, and a re-examination that day showed the vesicle collapsed and of ordinary consistence. Shrinkage of the prostate itself is promoted by the conjoint use of the primary, or coarse wire secondary faradic current, turned on by a controller, with the electrodes arranged as just described. By carrying the active electrode a little higher, which is facilitated by its being hollow and serving to introduce a cushion of water before it from a syringe, the method may be used as a powerful stimulus to an atonic bladder, which is so often found associated with prostatic enlargements. The adherence to the swelling method will permit of daily treatment within the rectum without the mucous membrane being excoriated.

Finally a most important element in the electrical treatment of impotence in the action of the current on the neuromuscular apparatus and the genito-spinal centre. The rectal application described may be made to produce contractions of various groups of associated muscles by slight changes in the position of the active electrode, simulating successively the several associated movements occurring in functionation. But probably the most valuable detail of the method is the application of the galvanic current to the genito-spinal centre. For this, large currents are used, usually from 60 to 100 milliamperes, the patient lying face down upon a large indifferent electrode applied to the abdominal surface. The active electrode, an elastic, wired-cotton pad, about seven inches in diameter, thoroughly wetted and soaped, and attached to the negative pole of the battery, is passed up and down the lumbar region until a good lather is raised. The current is now turned on, and the electrode slowly moved up and down over the centre for five minutes. No better plan of detecting the existence of this centre need be wanted, as erectile sensations are often distinctly produced during the passage of the electrode over the situation of the centre or of its efferent nerves.

The statements of patients as to the effect of these methods on moderate degrees of pelvic and spinal impotence vary somewhat, the general consensus pointing to its great value. In one case the restoration of potency was so pronounced that truly remarkable sexual excess was subsequently indulged in with impunity.—*Univ. Med. Magazine.*

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## MEDICINE.

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### EXTRACT OF BONE MARROW IN THE TREATMENT OF ANEMIA.

The red marrow of bone being probably the chief agent in promoting the development of red blood corpuscles, it seemed feasible to suppose that an extract of this substance, if introduced into the human organism while in an anemic state, might act as a stimulant to the formative process and increase the rate of production of the red corpuscles. In adult animals—as the ox—the red marrow is limited to the larger bones of the trunk, thick parts of the skull, and the heads of the long bones; the shafts of the latter contain yellow marrow, which is chiefly composed of fat. In young animals—as the calf—red marrow is more abundant and may be found in the shafts of the long bones as well as in the parts just named. As the tissue-forming power in young animals is more active than in older animals



the bones of the former are preferable as a source of marrow extract. To prepare the extract the heads of the long bones, obtained from recently killed animals, with other portions of bone which contain red marrow are broken into small pieces and digested in glycerin with frequent agitation. When the extraction is complete—several days being required—the extract is filtered off and is ready for use. It is red or reddish-brown in color, and is devoid of any unpleasant taste or odor. It may be given in teaspoonful doses once or twice a day either out of the spoon or spread between thin pieces of bread.

The first case in which I tried the extract was that of a little boy, the subject of hemophilia. This child had repeatedly been in the hospital under the care of one or the other of my colleagues, or of myself, for attacks of hemorrhage. On each occasion the bleeding ceased; but the patient never lost the pallor of pronounced anemia, although he was treated with iron, cod liver oil, and all kinds of appropriate nourishment. The last time that he was admitted, the red corpuscles were counted after the hemorrhagic symptoms had subsided, and were found to be 3,800,000 per cubic millimetre. The patient was then (September 13, 1893) put on marrow extract without any other treatment, and after an interval of three weeks the corpuscles were again counted; they now numbered 4,190,000, and one month later they reached 4,400,000. Coincidentally with this increase there was a marvelous improvement in the appearance of the child; his face acquired an amount of healthy color never previously observed during his many visits to the hospital.

In a second case, that of a young woman, 20 years of age, with long standing anemia, the corpuscles numbered 3,700,000 per cubic millimetre; after taking the marrow extract for three weeks they increased to 4,000,000. She then left the hospital. In another anemic girl the increase in nine weeks was from 1,350,000 to 3,680,000. A man was admitted for profuse hematemesis; after the bleeding ceased the red corpuscles were found to be reduced to 1,070,000 per cubic millimetre. He was put on marrow extract without other treatment, and, when counted on the fifteenth day, the corpuscles numbered 3,050,000. I am indebted to our house surgeons, Messrs. Newby and Brown, for these observations. I am encouraged by these and many other favorable results to direct the attention of the profession to marrow extract as an agent capable of affording, to all appearance valuable aid in the treatment of anemia, and also of oligemia due to loss of blood from causes such as placenta previa, hæmorrhoids, and wounds.—*The Lancet*.—*American Therapist*.

## SOME OF THE THROAT CONDITIONS OBSERVED IN GOUTY SUBJECTS.

By SOLOMON SOLIS COHEN, A. M., M. D., Professor of Clinical Medicine and Applied Therapeutics in the Philadelphia Polyclinic, etc.

The term "gouty subjects," as used in this paper, applies not only to those who have had attacks of acute gout, or those who exhibit the characteristic deposits of chronic gout, but also to the much larger number who suffer with the varied and often obscure symptoms of "lithemia," with a more or less constant tendency to excess of oxalates, phosphates, urates and uric acid in the urine.

In both classes of patients the upper air passages are frequently affected; and while the gouty diathesis can not be affirmed to be the sole cause of the local manifestations, it doubtless acts both as a predisposing and modifying influence. A large number of cases by different observers would have to be recorded in detail and carefully analyzed before characteristic signs of throat gout could be laid down. In most if not in all cases the condition is a chronic one, with tendency to paroxysmal exacerbation. Attention being first directed to it during a period of intensification, it may be mistaken for an ordinary form of acute inflammation, and the diathetic origin overlooked. Inflammation, however, is not a necessary feature of the case. In the author's experience, the most prominent symptoms are sensory; pains and perverted sensations of various kinds being referred to circumscribed regions, often described as "spots," in which no adequate structural alteration is obvious. These spots are often, but not invariably, painfully sensitive to the touch, and can be accurately localized; in some cases pain is referred to a part apparently unrelated with the one touched; but the association is constant.

Sometimes, more especially during an acute paroxysm, these spots are characterized by the junction of several dilated blood vessels; sometimes a single blood vessel is prominent; sometimes there is a dusky coloration of the mucous membrane; sometimes an enlarged and reddened follicle, but often there is no apparent difference from the surrounding membrane. In the larynx, the epiglottis and the arytenoid eminences seem the favorite seats of morbid sensation; the former usually exhibiting a network of dilated vessels, resembling a veil; the latter a slight tumefaction and reddening. In some cases during the more acute stage there is a diffuse laryngitis with characteristic coloration and tumefaction—a "corned-beef" appearance. In the pharynx, the tonsillar and peritonsillar structures, and the angles of junction of the postero-lateral walls have seemed to be most frequently affected.

There may be enlarged glands. The tongue and its glands are often involved. The buccal mucous membrane sometimes presents whitish patches. When the distressing sensations are referred to the rhinopharynx, Luschka's tonsil may be tumefied and reddened. Noises and peculiar sensations in the ear are usually to be explained by tubal catarrh and gouty changes in the drum membrane.

In young patients, the pharynx and larynx are often covered with a grayish tenacious mucous; in those past middle life the pharyngeal membrane is more often dry and pale, exhibiting a network of enlarged and tortuous vessels, or mottled with livid patches. Spasmodic obstruction to nasal respiration with or without accompanying coryza, spasmodic choking in swallowing and spasmodic obstruction to voice and to laryngeal or bronchial respiration, have been observed in a few cases.

The diagnosis depends on urinalysis and associated symptoms of gout or lithemia. Local treatment must be of the mildest character, and is palliative only; for permanent relief of greater or less degree, dependence must be placed on dietetic, hygienic and medicinal measures appropriate to the gouty state.—*Cincinnati Medical Journal*.

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#### MALIGNANT ENDOCARDITIS—THROMBOSIS OF THE PORTAL SYSTEM.

Mr. Burgess read a paper on a case of malignant endocarditis in a married woman, aged 30 years, who was six months pregnant. The chief interest lay in the obscurity of the case from the first, and likewise that it differed from the description of recorded cases in its symptoms. The prominent symptoms were pain of a lightning character, shooting in paroxysms from the inside of the knee to the base of the abdomen, and a fixed pain at the symphysis pubis; there was also, after a time, paralysis of the bladder. The temperature was 101 deg. F., and a murmur was apparent from the first in the mitral valves, substituted in character.

Miscarriage took place on the seventh day, but as the sequelæ gave rise to no fresh symptoms it was not regarded as a complication. On the 18th day embolism of the left cerebral artery occurred, followed by rapidly increasing coma and death on the 20th day.

The remarkable points were: (1) Murmur, which was present from the first, with an absence of any previous history of rheumatism; (2) the nervous phenomena, which were the distinct features; (3) the temperature, which was of the con-

tinuous type; (4) its already alluded to difference from the ordinary forms of pyæmia, cerebral, cardiac or septic; (5) no occurrence of emboli took place until the eighteenth day, and there were no signs of renal or splenic embolism the whole time; (6) the peculiar absence of perspiration. The treatment was symptomatic. Dr. Tweedy and Dr. Moore commented on the difficulty that frequently existed in making an early diagnosis with accuracy. The president then related a case of thrombosis of the portal system in a man aged thirty years. He was anæmic, the legs were swollen, but there was no albumen in the urine, either then or subsequently. Some months later he was admitted into hospital for severe abdominal pain, which had developed thirteen days previously. He was very weak and sallow, and suffered from dry retching. The abdomen was distended and tender. It was dull at the lower part and sides, and fluctuation could be detected; there was no enlargement of the cutaneous veins. A systolic murmur was heard over the heart, at the base and apex.

The bowels were loose and there was pyrexia. He became worse and died in collapse after a week's stay in hospital. Post mortem, the liver was found to be normal in size, very hard and tough, with nodular cirrhosis, especially on the under surface of the left lobe. The gall-bladder was flaccid. About two and a half quarts of thin serous fluid escaped from the peritoneum. The spleen was enlarged and firm. The portal vein was adherent to structures in the transverse fissure. It was much dilated, and its coats were thick (about three mm.) and leathery—not calcified. Its interior was occupied by a firm, yellowish granular thrombus adherent at one side to the veins, but not completely obstructing its lumen. The branches of the portal vein through the liver were filled with soft thrombi, closely fitting, and yet capable of being withdrawn. The mesenteric veins were occluded by soft red thrombi. The jejunum for about one foot was adherent to the ascending colon by soft recent lymph. There was acute recent peritonitis over the liver and over this portion of the bowel, which was intensely congested and nearly black, resembling a strangulated intestine. There was no blood in its interior; the mucous membrane was eroded. The walls of the rest of the small intestine were much thickened by œdematous swelling. Several veins near the pyloric end of the stomach were firmly thrombosed. Pleural adhesions existed on each side, and there was effusion into the right pleural cavity. The probable order of events was: (1) Cirrhosis of the liver; (2) thrombosis of the portal vein; (3) sudden extension of the thromboses to the gastric and mesenteric veins; and (4) peritonitis.—*The Lancet*  
—*Medical and Surgical Reporter*.



## Book Reviews and Notices.

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*A Dictionary of Medical Science: Containing a full Explanation of the Various Subjects and Terms of Anatomy, Physiology, etc.* By Robley Dunglison, M. D., L L. D. Twenty-first Edition, thoroughly revised and greatly enlarged, with the pronounciation, accentuation and derivatives of the terms, by Richard J. Dunglison, A. M., M. D., Philadelphia: Lea Bros. & Co.

The unqualified success which Dunglison's Medical Dictionary has enjoyed for over forty years shows that it has satisfactorily supplied a want in the medical profession. The successive editions of the work pretty fairly chronicle the advances made in the medical sciences during its long life—which corresponds to a period which is unprecedented in activity of research and fruitful discoveries. The present edition is considerably larger than any of its predecessors, because a great increase in size was necessary in order to find room for the vast amount of increased matter produced in the wonderful progress made since the appearance of the twentieth edition. The new terms introduced into the present edition number more than forty-four thousand. This increase would of itself form a respectable vocabulary. In previous editions, the pronounciation was ignored; in the present one, a thorough system of phonetic spelling gives the pronounciation of all words that are not so simple as to require no key.

The clearness and fullness of the definitions have always characterized Dunglison's Dictionary. This feature has received careful attention in the latest edition. Besides mere definitions, some of the articles are accompanied by brief monographs, which materially add to the value of the work.

The editor of the last edition was trained for the work by the original compiler, his father, who put over forty years' experience and labor into the most important of his many labors. How excellently the editor has performed his task the last edition abundantly testifies.

With all of its numerous additions, Dunglison's Dictionary is still in one volume, not too large to be comfortably handled. The typography and general finish of the work are such as always characterize the productions of the publishers.

A. MCS.

## MORTUARY REPORT OF NEW ORLEANS.

FOR MAY, 1894.

CAUSE.	White.....	Colored...	Male.....	Female....	Adults ...	Children.	Total .....
Fever, Yellow .....							
“ Malarial (unclassified)....	4	8	9	3	8	4	12
“ Intermittent .....							
“ Remittent .....	6	4	4	6	5	5	10
“ Congestive.....	2	2	1	1	2	1	3
“ Typho .....	2	2	2	2	2	2	4
“ Typhoid or Enteric.....	4		2	2	3	1	4
“ Puerperal .....		1		1	1		
Influenza.....	2	1	1	2	3		3
Scarlatina .....							
Small Pox.....							
Diphtheria .....	10	5	6	9	1	14	15
Whooping Cough .....	3		2	1		3	3
Meningitis .....	16	3	11	8	2	17	19
Pneumonia .....	13	10	12	11	12	11	23
Bronchitis .....	6	11	7	10	6	11	17
Consumption.....	43	33	49	27	75	1	76
Cancer .....	9	2	6	5	11		11
Congestion of Brain.....	5	1	3	3	2	4	6
Bright's Disease (Nephritis) ...	13	7	11	9	20		20
Diarrhœa (Enteritis) .....	45	23	39	29	15	53	68
Cholera Infantum .....	36	9	27	18	1	44	45
Dysentery.....	4	5	4	5	8	1	9
Debility, General .....	3		2	1	3		3
“ Senile .....	11	11	9	13	22		22
“ Infantile .....	3	3	4	2		6	6
All other causes .....	164	101	156	109	157	108	265
TOTAL .....	404	241	367	278	358	287	645

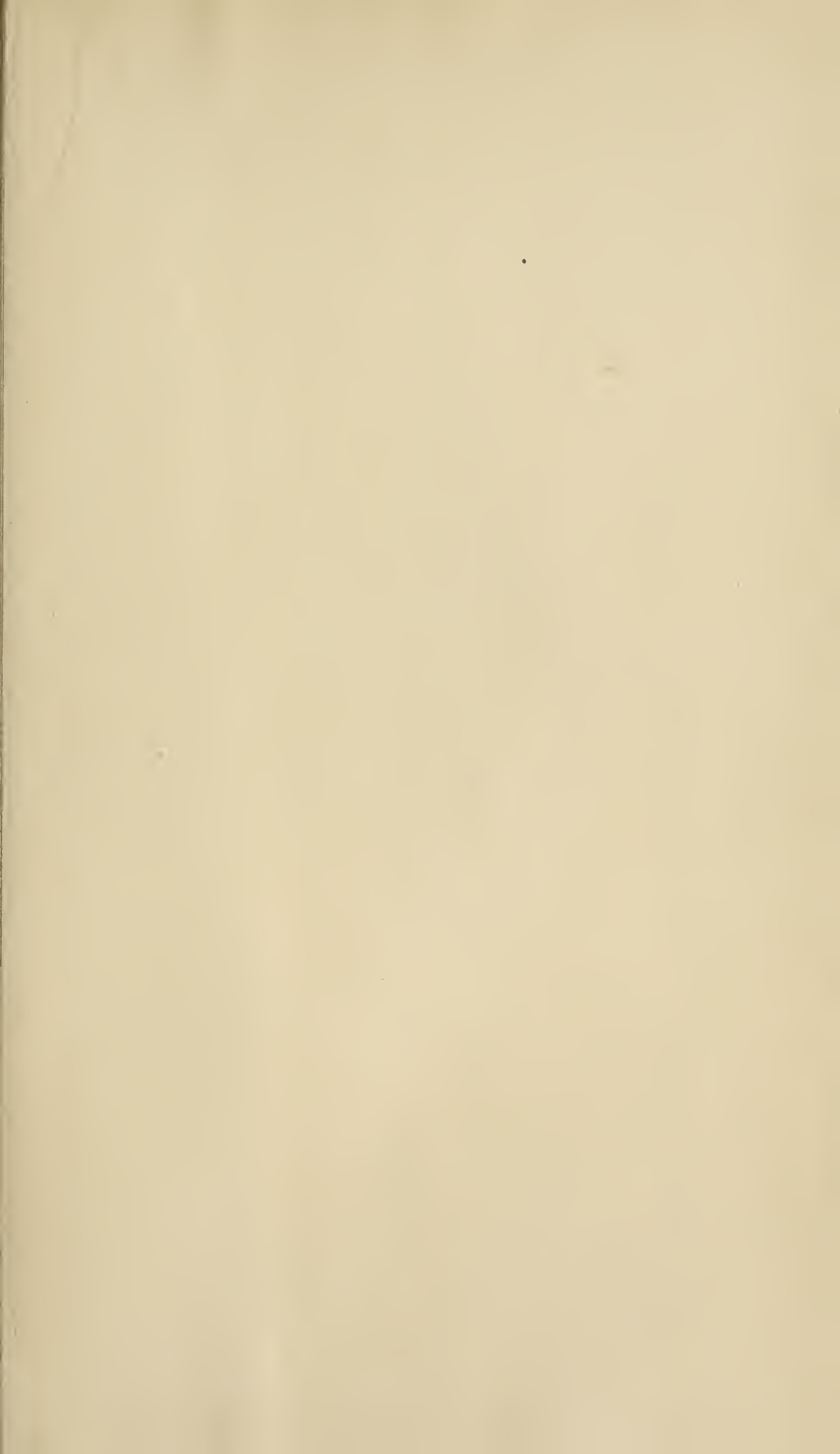
Still-born Children—White, 25; colored, 19; total, 44.

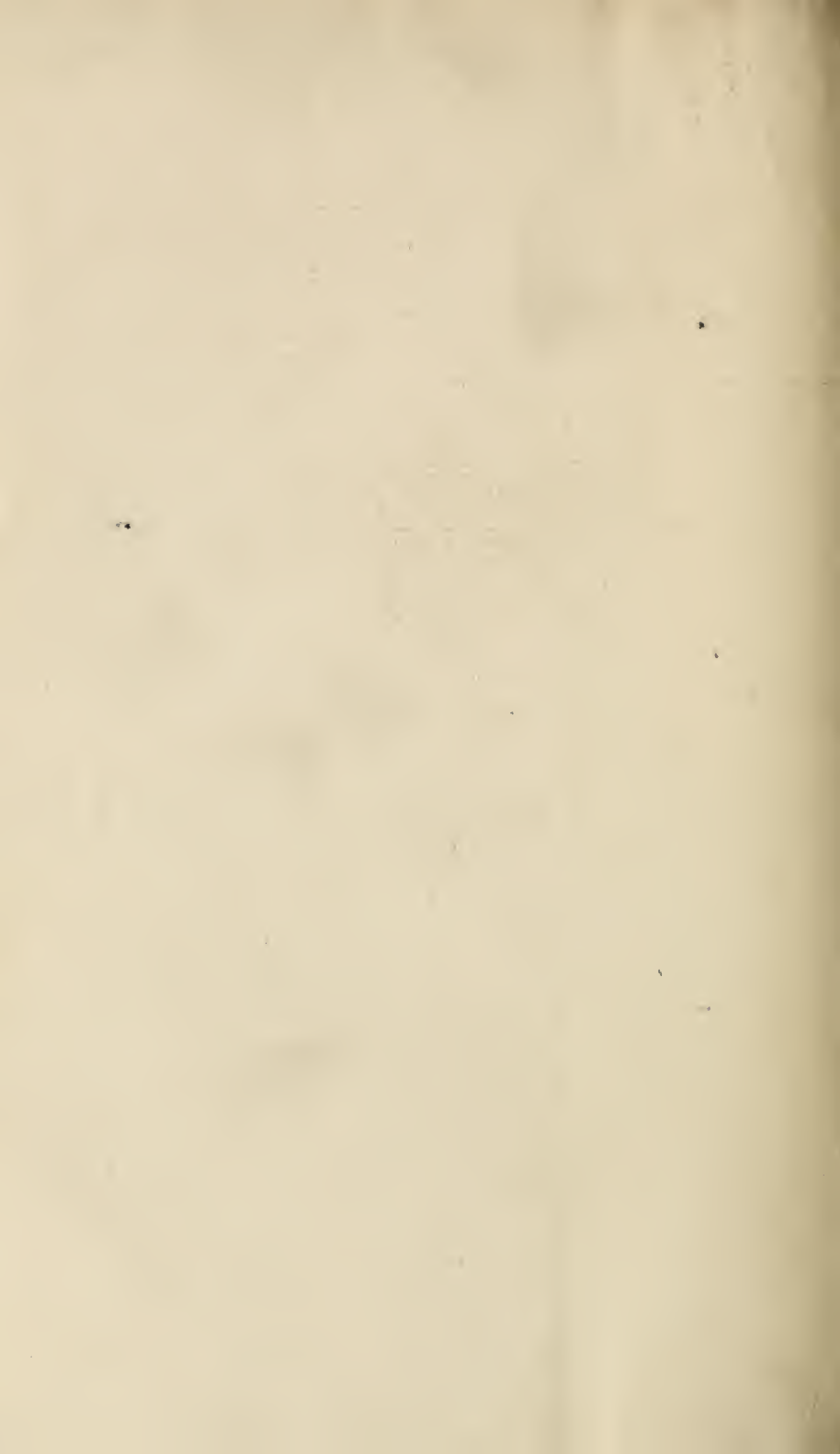
Population of City—White, 184,500; colored, 69,500; total, 254,000.

Death Rate per 1000 per annum for month—White, 26.27; colored, 41.61; total, 30.47.

L. F. FINNEY, M. D.,

Chief Sanitary Inspector.







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